1921

DEPARTMENT OF COMMERCE
BUREAU OF FISHERIES
HENRY O'MALLEY, Commissioner

FISHERY INDUSTRIES OF THE UNITED STATES

REPORT OF THE DIVISION OF FISHERY INDUSTRIES FOR 1921

By LEWIS RADCLIFFE
Assistant in Charge

APPENDIX IX TO THE REPORT OF THE U. S. COMMISSIONER OF FISHERIES FOR 1922

Bureau of Fisheries Document No. 932

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By LEWIS RADCLIFFE, *Assistant in Charge.*

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[1] Appendix IX to the Report of the U. S. Commissioner of Fisheries for 1922. B. F. Doc. 932.

INTRODUCTION.

The very threatening situation confronting the fishery industries in 1920 continued throughout 1921, with slight indications of improvement late in the year. As a result there was further curtailment in the production of important fisheries and retrenchment in operations. In the New England vessel fisheries centering at Boston and Gloucester, Mass., and Portland, Me., the decrease in production in 1921 as compared with 1920 amounted to 27,415,595 pounds in quantity and $2,504,384 in value, a decrease since 1918 in excess of 54,000,000 pounds in quantity and $4,750,000 in value. The average price per pound received for these fish in 1916 was 3.44 cents; in 1918, 5.12 cents; in 1920, 4.61 cents; and in 1921, 3.79 cents. The pack of sardines in Maine in 1919 was 2,450,268 cases, valued at $11,933,986; in 1920, 1,877,757 cases, valued at $7,435,056; and in 1921, 1,350,631 cases, valued at $3,960,916. Such well-known fishes as red snappers taken in the fisheries of the Gulf of Mexico were marketed with difficulty and considerable quantities sold on consignment at less than the cost of production. In Alaska the pack of salmon in 1918 was 6,605,835 cases, valued at $51,041,949; in 1920, 4,429,463 cases, valued at $35,602,800; in 1921, 2,596,826 cases, valued at $19,632,744. In 1920 the pack of sardines in California exceeded 1,000,000 cases, with a value of nearly $3,000,000, and in 1921 it amounted to 415,587 cases, valued at $2,346,446.

Post-war readjustments have compelled a closer study to be made of costs of operation and means of effecting economies in operation. This is reflected in the increased demand upon the bureau for the service this division performs, particularly in the fields of statistics, technology, and merchandising. The increase in the division's appropriation beginning with July 1, 1921, has made possible an enlarged program of operations, and a number of investigations which promise to yield important practical results have been initiated.

SUMMARY OF OPERATIONS.

During the year statistical canvasses were made of the fisheries of Maryland and Virginia for 1920, of the take of shad and alewives in the same States during the fishing season of 1921, and of the canning and by-products industries of the United States in 1921. The last was confined to the number of plants operated, the raw products utilized, and the quantity and value of the finished products. The landings of the vessel fisheries at the ports of Boston and Gloucester, Mass., Portland, Me., and Seattle, Wash., have been collected as heretofore and published as monthly and annual bulletins. The results of these canvasses are embodied in the present report, together with a summary of the cold-storage holdings of frozen fish in 1921 and quantities frozen; the quantity of fishery products taken in California in 1921, shown by species and by months; the fishery products received at the Municipal Fish Wharf and Market, Washington, D. C.; the shad and alewife fishery of the Potomac River in 1921; and certain sponge statistics.

In fisheries technology noteworthy progress has been made in the fields of net preservation and brine freezing of fish, and in the methods of canning such fishery products as sardines. In June there was

begun a series of market surveys, which has included the following centers: Louisville, Ky.; Pittsburgh, Pa.; Chicago, Ill.; and Minneapolis and St. Paul, Minn. The division has continued to aid in increasing the use of by-products of the fisheries, in increasing the use of fish as food, and in effecting improvements in the merchandising of fishery products and the methods of capture and has prepared for publication, for the use of those interested therein, the results of work completed.

PUBLICATIONS OF THE DIVISION.

During the calendar year 1921 the following publications, prepared in this division, were issued. This list does not include the monthly statistical bulletins for Boston and Gloucester, Mass.; Portland, Me.; and Seattle, Wash.

DOCUMENTS.

Preservation of fish nets, by Harden F. Taylor, 8°, 35 p., 1 text fig., Document No. 898.

Improvements in process of salting river herring, especially adapted to warm climates, by Harden F. Taylor, 7 p., Document No. 903.

Fishery industries of the United States. Report of the division of statistics and methods of the fisheries for 1920, by Lewis Radcliffe, 8°, 187 p., 9 figs., Document No. 908.

ECONOMIC CIRCULARS.

Trade in fresh and frozen fishery products and related marketing considerations in Louisville, Ky., by L. T. Hopkinson. 8°, 8 p., Economic Circular No. 50.

Trade in fresh and frozen fishery products and related marketing considerations in Pittsburgh, Pa., by L. T. Hopkinson. 8°, 9 p., Economic Circular No. 52.

Brine freezing of fish, by Harden F. Taylor. 8°, 8 p., Economic Circular No. 53.

Trade in fresh and frozen fishery products and related marketing considerations in Chicago, Ill., by L. T. Hopkinson. 8°, 21 p., Economic Circular No. 54.

STATISTICAL BULLETINS.

Statement, by fishing grounds and by months, of quantities and values of certain fishery products landed at Seattle, Wash., by American fishing vessels during the calendar year 1920. Statistical Bulletin No. 487.

Statement, by months, of the quantities and values of certain fishery products landed at Boston and Gloucester, Mass., and Portland, Me., by American and Canadian fishing vessels during the year 1920. Statistical Bulletin No. 488.

Statement by fishing grounds, of quantities and values of certain fishery products landed at Boston and Gloucester, Mass., and Portland, Me., by American and Canadian fishing vessels during the calendar year 1920. Statistical Bulletin No. 489.

Fisheries of the South Atlantic States, 1918. Statistical Bulletin No. 494.

Fisheries of the New England States in 1919. Statistical Bulletin No. 497.

NOTES ON FISHERY APPARATUS.

SWEEP NET OR SEINE.

In view of the widespread interest aroused by the introduction of the Danish sweep net or seine (snurrevaad) in the British fisheries, the following notes on operation and construction may be of interest to American fishermen as well. In construction the sweep net is similar to the otter trawl, but it is smaller and less expensive and can be operated by smaller vessels at less expense. In operation one end of the warp is attached to a buoy held in position by an anchor while the vessel follows a circular course laying the net across the tide, bringing the two ends of the warp together at the buoy. The

vessel is anchored, the two ends of the warp are passed through the rope rollers onto a winch, and the net hauled in directly against the tide.

There are two different types of these nets—the plaice net and the haddock net. The first is the type for flat fish and the second for round fish; the size of mesh in each is therefore slightly different. Both these types are carried on each vessel. The total length of the net is from 33 to 36 fathoms, the depth from 6 to 7 fathoms, and the length of each warp from 750 to 1,000 fathoms according to the depth of water. In the plaice net the size of mesh in the wings is 2-inch bar and the cod end 1½-inch bar. In the haddock net the size of mesh in the wings is 2½-inch bar and in the cod end 1¼-inch bar. The wings are 16 fathoms and the center 4 fathoms in length.

The cod end is of double cotton mesh. The head and foot ropes are of hemp 1½ inches in circumference, and the net is of cotton. The whole net is of very light construction. The warp is 2½ inches in circumference and may be of English manila, Danish manila, Danish sisal, etc. The head line is provided with either cork floats or glass bulbs to keep the net upright; the footrope is weighted with lead sinkers, slightly heavier in the center. The floats and sinkers are adjusted so that the net just touches the bottom, though with the plaice net it is necessary to drag to a certain extent along the bottom. In some cases pieces of chain about 2 feet in length are attached to the ground rope for "tickling," an ash stick 6 feet in length is seized on either end of the net to assist in keeping it open, and to this stick the warp is attached, but this is not universally used. The length of the cod end is about 9 fathoms. The cost of the haddock net (1921) was about $121 and of the plaice net $73.

The ship's anchor, with the warp attached, is dropped and buoyed. The ship then steams about two points off the tide; that is, with the tide setting north, the ship steams NNE. or NNW., paying out warp as she goes. After paying out about 600 fathoms or more, according to depth, the ship turns so as to lay the last 100 fathoms of warp, the net, and a further 100 fathoms of warp, across the tide, when she turns again to pick up her moorings, paying out warp at a sufficient speed to prevent any drag on the net. When fast to her moorings, both warps are attached to a special winch and are hauled in together. When hauling, the warps act as "ticklers" and drive the fish into the net. The fact that the warps remain on the bottom keeps the net open till within 50 fathoms of the ship. The whole process of shooting and hauling is said to take less than an hour. The fish are all taken alive and are in first-class condition. The boats used vary in size from the small motor boat of about 10 tons to the small steam trawler of about 90 to 100 tons, though the most suitable seem to be wooden drifters of about 45 net tons.

It is believed that this type of fishing can be carried on only in fine weather and can not be regarded as a whole-time method. Several skippers, however, who are using this net claim that with proper care it can be used all the year. The majority of vessels fitting with this type of gear propose to take up line fishing during the winter months, and vessels are chosen with a view to being suitable for either purpose. A steam trawler which burns about 5½ tons of coal per day when trawling is said to burn only 2 to 2½ tons per day when seining, although the catches have been about equal.

This net was formerly manufactured exclusively by the Danes. Recently (1921) the demand has been so great that the nets have been made in sections at Bridgeport, Dorset, and sent to Esbjerg to be completed. The cotton used is of a special kind and comes from a firm in Manchester. One difficulty in the use of this net has been that those who use it have been unable to obtain the particular kind of cotton needed for mending purposes, and in some cases when the net is badly damaged have had to send it to Esbjerg for repairs, where this particular kind of cotton is obtainable. It is now being manufactured in England.

A special winch and coiler are used for this net. Until recently these have been manufactured exclusively in Denmark, but the English concerns are now manufacturing them and improving upon their construction. The price of the winch at present (1921) is $583 and of the coiler $124. A special point about the winch is that both warps are brought through a fair lead and three turns are taken around each drum; thence the warp is taken over a small drum and passed through an aperture, one side of which has a concave wheel and the other a cog wheel, which holds the warp tight by a spring. When the winch is set in motion, the coiler is actuated by a chain belt, and underneath is a circular metal rotary hopper which coils each warp into a neat coil as it revolves. The drum of the winch can be worked together or separately, so that if any obstruction occurs with one warp the whole net can be hauled in by using the other warp only. Mistakes have frequently been made by putting more than three turns of warp around the drums, for if any obstruction occurs instead of the warp slipping it parts with the strain, and the net is liable to be lost. The winch is placed just forward of the wheelhouse. Part of the fish hold is roofed over with wooden drifters to accommodate it. Experiments are being made to place an iron bedplate underneath the winch to strengthen its construction.

CRAWFISH FISHERY OF WISCONSIN.

In the Green Bay district of Wisconsin there is a small fishery for crawfish which, with the development of more extended markets, is capable of some expansion. In 1899 the catch of crawfish in this region amounted to 135,861 pounds, valued at $3,498; in 1903, 244,464 pounds, valued at $7,897; and in 1917, 80,495 pounds, valued at $4,427, the catch being limited to market demands.

The fishery is conducted from July to November, shipments being made principally from Green Bay, West De Pere, Sturgeon Bay, and Little Suamico to points as far east as Cleveland and New York, and as far west as Omaha, Kansas City, St. Louis, and Leavenworth. The principal markets are Chicago, Milwaukee, Omaha, and New York. Shipment is usually made in baskets or small boxes of various sizes, carrying 200 to 500 crawfish. In the warmer months crushed ice and sawdust are included in a compartment of the package during periods of high temperature or for long-distance shipment.

An ingenious pot (Fig. 1) is used to capture the crawfish. Following is a description of one of these pots: Four sides equal, 16 by 8¾ inches, of 1½-inch lath, four laths to a side; ends square, each with a four-sided funnel that has an exterior aperture 4½ inches square and a mouth about 1½ by 1 inch, with the upper board projecting over the mouth about ¾ inch; lower ends each with a triangular cement block,

fitted around the funnel and extended upward to the middle of the end, to sink and hold the trap on the bottom; top removable, with a wire hook projecting downward from center of top, on which the bait

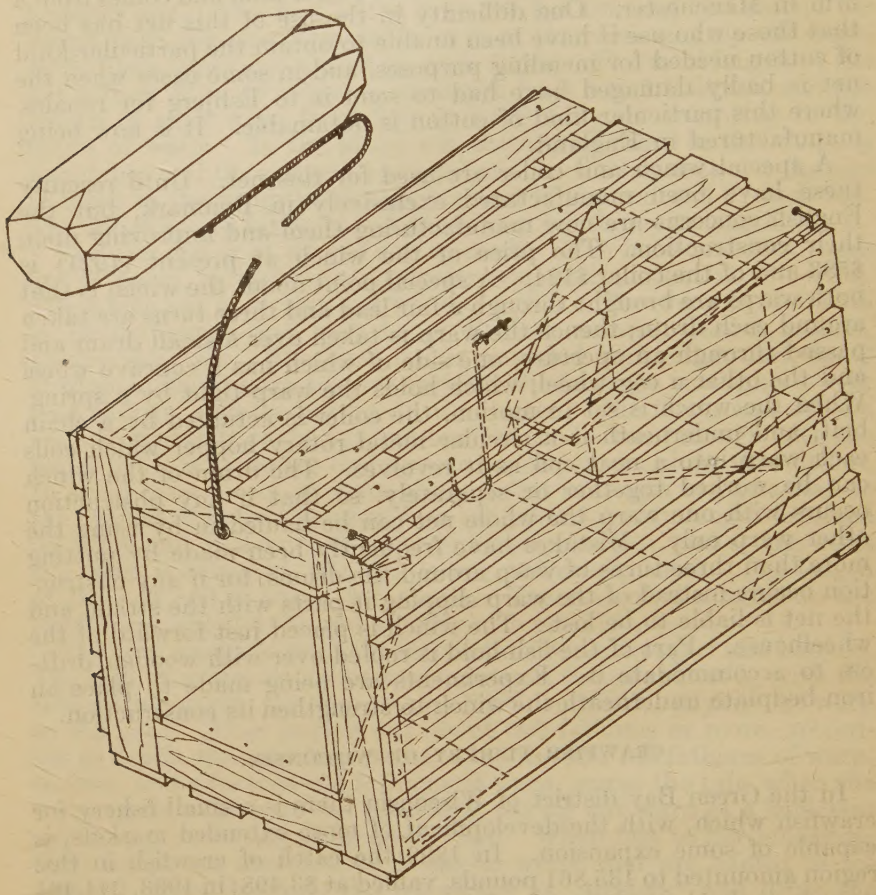

FIG. 1.—Crawfish trap.

(any inexpensive fish) is fastened. To one end is fastened about 8 feet of ⅜-inch rope with a short wooden float at the free end.

IMPROVEMENTS IN MERCHANDISING FISHERY PRODUCTS.

The bureau realizes the importance of rendering all possible assistance in effecting improvements in fish merchandising and has aided as fully as practicable those seeking such assistance. It is hoped that provision may be made for more extensive aid in this field. There is special need for the assemblage of specific information on such subjects as the losses through shrinkage in the handling of fresh fish and its preparation for the consumer, in both the fresh and preserved state. Many factors need consideration, such as the losses through evaporation under varying conditions, the shrinkage factors for each

of the species of commercial importance, etc. What are the losses in weight in freezing, salting, drying, skinning, boning, pickling, smoking, and canning? These are items that enter into costs regarding which the trade should have definite information if it is to operate efficiently, and members of the trade have emphasized the fact that to realize the greatest good from such work it should be conducted by a Federal agency such as the Bureau of Fisheries. The following illustrates one of the bureau's efforts to render service in this field:

IMPROVEMENT IN TRANSPORTING SEA CRAWFISH.

About 40 per cent of the sea crawfish or spiny lobsters shipped from points in Florida to the Washington (D. C.) markets formerly arrived dead, resulting in heavy losses to the express carriers. At a conference with a representative of the carriers it was learned that the crawfish were packed in alternate layers of ice. The bureau suggested changes in this method of packing which were carried out and have reduced the losses to about 2 per cent, eliminating all claims against the carrier, except for packages lost in transit. The improved method of packing follows: Inside the ordinary large lobster tub is placed a smaller tub, the bottoms of the two being fastened together. The lobsters are packed in the smaller container in even layers to within about 6 inches from the top, and the balance of the space is filled with sponge scraps or seaweed and covered with a slatted top, securely fastened. On top of this tub is placed a chunk of ice of sufficient size to last until shipment reaches destination, and the top of the outer container is covered with matting or burlap. If reicing is necessary it is a simple matter to remove cover of outer container and put in more ice. This method of packing keeps the spiny lobsters from actual contact with ice, avoiding the abrupt change in temperature, and the melting ice dripping down through the layer of sponge scraps or seaweed keeps them moist and cool.

MARKET SURVEYS.

There is a dearth of information on the subject of fish marketing without which progress in effecting improvements in the methods of handling and distribution of fishery products, in intelligently combating the prejudices of the consumer, in increasing the consumption of fish, and in educating the public to the proper place of fish in its dietary, must be slow and extremely costly. For several years the bureau has been desirous of contributing to this phase of the fisheries but has lacked both funds and workers properly equipped for such an undertaking. In June, 1921, a survey of Louisville, Ky., was made, followed by surveys of Pittsburgh, Pa.; Chicago, Ill.; and Minneapolis and St. Paul, Minn., all of which were completed before the end of the calendar year. (See List of Publications, p. 3.)

These surveys have been confined to the trade in fresh and frozen fishery products and include such subjects as composition of population, sources of supply, trade names in use, grouping of species into those on which the bulk of the trade is based, those of moderate importance, and those for which the sale is small, character of containers, cold-storage holdings, carload freight and express arrivals, short-line travel distances and freight and express rates from principal sources of supply, wholesale and retail trade, including directory of dealers, and advertising and display.

The trade has evinced a deep interest in these reports which have been distributed as far as practicable to those persons who will make the best use of them, the edition, limited by law, being inadequate for distribution to all in the trade, to those on regular mailing lists, and to inquirers. The following tables based on these reports are given for comparative purposes:

SUMMARY OF MARKET SURVEYS FOR FISHERY PRODUCTS IN CERTAIN CITIES.

Items.	Louisville.	Pittsburgh.	Chicago.	Twin Cities.
Population	234,891	588,343	2,701,705	615,280
Ratio of dealers retailing sea foods to population	1 : 16,778	[1] 1 : 8,914	1 : 16,275	1 : 16,629
Number of species:				
Handled	37	70	82	59
On which bulk of trade is based	[2] 6	[3] 8	[3] 11	[4] 8
Of moderate importance	5	7	13	6
For which sale is small	26	55	58	45
For which following reasons explain slight sale—				
Supply limited	5	11	18	4
Unpopular	10	21	13	9
Prices too high	9	7	1	11
Sold chiefly to foreigners	.....	9	5	3
Sold chiefly to hotels and restaurants	.....	1	7	2
Principal containers and capacity:				
Boxes.....pounds	100	100, 150, 200, 300	100, 150, 200, 300	100, 150, 200, 300
Barrels.....do	200	.....	.....	.....
Number of carload arrivals during 12-month period:				
By freight	45	67	470	84
By express	.....	.....	523	2
Partial unloading	.....	.....	422	186
Number of sea-food dealers [5]	14	71	222	48
Wholesale exclusively	.....	5	56	11
Wholesale and retail	2	6	18	5
Retail only	12	60	148	32
Retailing fresh fish	14	59	165	36
Also handling—				
Frozen fish	10	50	157	33
Oysters	12	59	131	28
Other shellfish	3	25	126	25
Salted fish	2	38	120	25
Smoked fish	.....	42	126	28
Canned fish	.....	34	88	22
Poultry	4	38	7	29
Meats	.....	20	6	30
Groceries	1	30	25	10

[1] The apparent explanation of this low ratio is that there are few butchers or grocers handling fresh and frozen fish as a side line.
[2] 75 per cent. [3] 70 per cent. [4] 90 per cent.
[5] Exclusive of butchers, grocers, delicatessen stores, etc., that handle fish as a side line, of which there are large numbers in Louisville, Chicago, and the Twin Cities.

IMPORTANT AND SECONDARY COMMERCIAL SPECIES OF FISH IN CERTAIN CITIES.

[I, important commercial species; S, species of secondary importance. Important commercial species represent 70 to 90 per cent of the sales.]

Species.	Louisville.	Pittsburgh.	Chicago.	Twin Cities.	Species.	Louisville.	Pittsburgh.	Chicago.	Twin Cities.
Buffalofish	I	.....	I	S	Red snapper	.....	.....	S	.....
Bullheads	.....	.....	S	S	Sablefish	.....	.....	.....	S
Carp	I	.....	I	S	Salmon	.....	S	I	I
Catfish	I	.....	S	.....	Smelt	.....	S	.....	.....
Ciscoes	I	I	I	I	Spanish mackerel	S	.....	.....	.....
Cod	.....	I	S	.....	Suckers	.....	.....	S	.....
Crappie	.....	.....	.....	S	Sunfish	.....	.....	.....	S
Haddock	.....	.....	S	.....	Tullibee	.....	.....	S	.....
Halibut	S	I	I	I	Whitefish	.....	I	I	I
Lake trout	S	.....	I	I	Yellow perch	.....	S	I	.....
Pike or pickerel	.....	.....	I	I	Oysters	S	I	I	I
Pike perches:					Hard clams	.....	S	S	.....
Blue pike	I	I	S	.....	Shrimp	.....	S	S	.....
Sauger	I	I	S	.....	Turtles	.....	S	.....	.....
Yellow pike	S	I	I	I					

The trade will find the comments on methods of display, extent of advertising of fishery products, city health ordinances governing the sale of same, regulations governing the cold storage of fish, the tables of short-line travel distance and freight and express rates on fresh and frozen fish from principal sources of supply, the sources of supply, etc., of particular interest.

INCREASING THE USE OF FISH AS FOOD.

Lacking special provision for operations in this field and a trained personnel essential to the success of such work, the activities of the bureau have been limited. The series of market surveys now in progress are supplying data of marked value for future operations.

PINK AND CHUM SALMON.

With large holdings of canned salmon at the beginning of the year, the salmon interests inaugurated an extensive advertising campaign to increase the consumption of this excellent food and requested the bureau to lend assistance. Holdings of the cheaper grades, pink and chum salmon, were at the time offered for sale at unusually low prices, furnishing the consumer with one of the lowest-priced protein foods on the market. To aid in increasing the consumption of these products, the bureau issued attractive posters and an economic circular from which the following is an extract:

> Pinks and chums usually contain less fat but are equal to the redder varieties in protein—tissue-building material. They are low priced because of their abundance and the use of labor-saving machinery in handling and canning them. Their high protein content and lower cost render them more economical than most animal foods in common use.[2]

NATIONAL FISH DAY.

For several years Canada has observed the first day of Lent as National Fish Day, and the plan is reported to have proved "a very successful means of stimulating interest in the fishing industry and in increasing home consumption." A similar move was initiated in the United States, March 9, 1921, being observed. This move on the part of the trade received the hearty support of the Secretary of Commerce and was given all possible aid by the Bureau of Fisheries. While the period within which preparations had to be made was exceedingly short, the observance of the day is reported to have markedly stimulated sales of fish and interest in the industry.

FISHERY CONFERENCES.

The conferences of representative men of the fishery industries called by the Secretary of Commerce during the year have developed a clearer understanding on the part of the trade of the important problems falling within the scope of the bureau that need attention and of the limitations beyond which it can not go. The first of these conferences, attended by representatives of the fresh, frozen, salt, and canned fishery industries, including the oyster, crab, shrimp, and menhaden fisheries from the Atlantic and Gulf coasts, the Great Lakes, and the Mississippi Valley, was held at the Department of

[2] Canned Salmon: Pink and Chum. Economic Circular No. 48, issued Feb. 16, 1921.

Commerce on May 9 and 10, 1921. The following committees were formed and have submitted reports: Transportation; education; fresh and frozen fish production and distribution; salt and canned fish trades; oyster, crab, and shrimp trades; fertilizer and feed industries; and pollution and Federal and State Control of fisheries.

Among the recommendations made that bear particularly on the division's work were the following: Importance of insuring catches of unquestioned freshness; avoidance of mutilation by the use of forks or pews and otherwise; careful packing for shipment in the most approved type of containers with adequate icing; importance of prompt shipment after landing to the nearest central market; cooperation with the bureau to secure improvements in freezing and preparation for distribution, including a thorough investigation of the possibilities of the new brine-freezing methods and the publication to the fishermen of the results of the investigations; education of and cooperation with the wholesaler and retailer, including the exercise of care in handling and storing of stock and its sale amid sanitary conditions; employment of improved trade practices in order to determine the essentials of a model fish market and to develop more even distribution of sales throughout the week; education of the consuming public to remove prejudices, to promote more intelligent buying, to secure a better understanding of the importance and place of fish in its dietary and recognition of seasonal variation in abundance; establishment and maintenance of standards of quality and containers for preserved products; and development of foreign fish trade.

With respect to by-products of the fisheries, recommendations included an investigation by experts of the various and contradictory methods of manufacture in producing fish scrap, meal, and oil, with a view to (*a*) standardization of those processes that insure the best product at the lowest cost and (*b*) equipping the industry to withstand foreign competition; a market survey for the expansion and development of new markets for the products of the industry, including investigations to reveal the suitability of products to present uses, development of improvements, new products, and increased use for products now manufactured, such as the advantages of fish oil in the manufacture of paints.

During the year the problems of fish merchandising and refrigeration, including brine freezing, have received special consideration by the division.

TECHNOLOGICAL INVESTIGATIONS.

Under conditions obtaining during the past few years the need for and importance of technological investigations have been felt by the industry as never before in its history. By way of illustration as to the necessity for such work, in 1915 the products of the fisheries of California exceeded 93,000,000 pounds and in 1919 the catch is reported to have approximated 260,000,000 pounds, about 90 per cent of which is made up of species of importance in the canning industry. Within a period of a decade more than 40 canneries have been built and equipped in that State, and the annual pack of canned fish has grown from a few thousand cases to more than 1,500,000 cases. Under such conditions of expansion and growth it is not surprising to

find the number of differing processes employed approximating the number of plants operated. Products, time, labor, and capital have been wasted through ignorance and for lack both of the development of standard methods that will yield high quality products and of specific information as to the best and most economical procedure.

The annual losses in other sections, as the New England district, resulting from rusting of mackerel and other fish and from reddening of cod and related species are heavy. It is important that technological studies be made of such problems to develop means of preventing or at least minimizing such losses. The bureau is endeavoring to utilize its facilities in this field to the fullest possible degree but is greatly hampered by its inability to obtain and retain the services of a properly trained personnel, because of the inadequacy of the salaries of such positions as have been created.

PRESERVATION OF FISH NETS.

A review of the literature on the subject of net preservation has been made and a report issued which includes a discussion of the fundamental principles in the light of chemistry so far as they are known. This report was prepared in nontechnical language in so far as practicable to make it readily understandable and includes such subjects as nature of disintegration of nets, coloring of nets, preservation of nets by tarring materials and by methods not dependent on tarring materials, and references to the literature.

Following this preliminary work an investigation of the subject has been begun. This includes tests of the relative value of various net preservatives, including some in commercial use, also tests to determine the increase in weight of the net by addition of the preservative, shrinkage, breaking strength, wearing quality, etc. Treated lines are being used by actual fishermen as one phase of wearing tests. In addition efforts are being made to effect improvements in the preservatives used and in the methods of their application.

BRINE FREEZING OF FISH.

Although the work in this field was seriously interfered with during a considerable part of the year progress has been made. A paper reviewing the present status of brine freezing was prepared by the chief technologist and issued for the information of the trade. This emphasizes the need of giving more attention to improving methods of freezing and storage and less to types of machinery; discusses the shorter time required to freeze fish in brine than in air, the nonevaporation of moisture from the fish during the brine freezing, the bright luster of the brine-frozen fish, and the pliability of fins and tail; and presents evidence that defrosted brine-frozen fish are firmer and may be held satisfactorily for a considerable time and that such fish may be frozen again. Mention of the difficulties of glazing brine-frozen fish is also made, and methods by which such fish may be properly glazed are given. It is stated that the most important aspect of brine freezing awaiting development is its practical application on a large scale. It is to this feature that the investigations now in progress are especially directed.

The conclusions reached by the author are that brine freezing promises to contribute much of value to improvements in the dis-

tribution of fish; that it gives an unquestionably superior product; that such difficulties as have been encountered are not insuperable; and that the proper design of suitable plants is the principal problem ahead.

THE FRY BATH IN CANNING SARDINES.

In the process of canning sardines in southern California, after the fish have been scaled and cleaned they are brined in a strong salt solution, dried, and then fried by being passed through a cottonseed-oil bath heated to a temperature of from 100 to 115° C., after which they are cooled and packed in tins with the proper sauces, then sealed and retorted. The fry bath consists of a long metal tank with a horizontal set of steam coils, midway of its depth, and an endless-chain conveyor passing over the coils carrying the trays of fish throughout the length of the tank. The tank is filled with water almost to the bottom of the coils, and sufficient oil is added to cover the baskets of fish passing through. With continued use the oil becomes viscous and almost black in color and acquires a disagreeable taste and odor. In addition some of the oil is carried by the fish to the tin and detracts from the quality of the pack. The packers have endeavored to diminish these difficulties by mechanical and chemical treatment, as the frequent renewal of the oil is expensive, but have met with little success. In view of the large quantity of oil used, the failure to develop satisfactory means of purification, and the effects on the character of the pack, the problem is one of some importance. A study of the changes taking place in the oil used has been made at the bureau's experimental laboratory at San Pedro, Calif., and the following conclusions have been reached:

1. The use of corn oil and a hydrogenated oil, in addition to cotton-seed oil, for frying sardines is feasible.

2. The presence of varying quantities of fish oil and the action of air and heat are largely responsible for the changes which take place in fry-bath oil.

3. Sardine oil is present in varying quantities in the fry bath in which sardines have been fried. When fat sardines are used its increase is so rapid that in a short time the fish are being fried in oil which is largely fish oil. To keep the fish oil content of the fry bath as low as possible, the sardines should be fried in the minimum quantity of oil that can be used. This is applicable to all cases except when fat sardines are being used with resultant increase in oil content of bath. In such cases the oil should be allowed to increase as far as conditions will permit and as long as such a condition exists.

Attempts to reclaim used fry-bath oil by chemical treatment were unsuccessful. It is improbable that a cheap successful method will be developed. The presence of small amounts of the fry-bath oil can be detected in the canned sardines when they are eaten, and it is believed cause the lingering taste often observed some hours after one has eaten a considerable quantity of the fish.

In conclusion, the investigation points to the desirability of developing a satisfactory substitute for the fry bath. It is probable, however, that no method developed will wholly displace frying in oil, as the trade in some quarters appears to demand fish put up in

this manner. On the other hand, it is believed that a pack in which the use of the fry bath is eliminated may appeal to persons who do not now use sardines because the flavor of the fried product is distasteful.

SALTING RIVER HERRING.

Lack of satisfactory markets and high transportation rates are reported to have prevented large-scale salting of river herring on the St. Johns River, Fla. The 1921 pack of fish put up according to the bureau's recommendations and demonstrations amounted to about 125,000 fish, all of which were marketed. A packer reports that some of the fish retained in the original brine for a period of three months were in perfect condition. By adherence to the bureau's methods an excellent product is obtained, and with improvement in the market situation it is anticipated that packing operations will be conducted on a much larger scale during the coming season, as the packers are desirous of developing this additional outlet for their catch.

CANNED FISHERY PRODUCTS AND BY-PRODUCTS OF THE UNITED STATES AND ALASKA, 1921.

The bureau has made a canvass of the canned fishery products and by-products of the United States and Alaska in 1921 for the use of the trade as an aid to the intelligent prosecution of business and to prevent waste or shortage through over or under production. These statistics also serve to reveal the growth, extent, and importance of the industry as a guide to its perpetuation and development. In the presentation of the statistics many of the combinations of States or products have been necessary to avoid disclosing private enterprise. It is believed that their value will be enhanced by showing the products in greater detail, and when the trade is prepared to acquiesce in presenting them in such detail the Bureau will gladly give them in more detailed form that they may be of the greatest possible use. The total value of canned products in 1921 was $46,634,706 and of by-products $8,351,827. The statistics are shown in Statistical Bulletin No. 526, and discussions and statistics follow.

CANNED FISHERY PRODUCTS.

CANNED SALMON.

In 1921 there were 138 plants engaged in canning salmon on the Pacific coast of the United States and Alaska. Of this number 81 were operated in Alaska, 23 on Puget Sound, 20 on the Columbia River, 10 on coastal streams of Washington, 2 on coastal streams of Oregon, and 2 in California.

The pack during 1921, on the basis of 48 pounds of fish to the case, amounted to 3,599,774 cases, valued at $28,867,169, of which 72.14 per cent of the quantity and 68.01 per cent of the value are credited to Alaska, 17.51 per cent of the quantity and 15.20 per cent of the value to Puget Sound, 9.28 per cent of the quantity and 15.22 per cent of the value to the Columbia River, and 1.07 per cent of the quantity and 1.57 per cent of the value to the coastal streams of Washington, Oregon, and California. Compared with the pack of 1915 there has been a decrease of 2,861,545 cases in quantity and an increase of $915,588 in value.

In Alaska the pack amounted to 2,596,826 cases, valued at $19,632,744, divided as follows: Red or sockeye, 1,765,798 cases, valued at $15,841,404; humpback or pink, 423,984 cases, valued at $1,788,778; chum or keta, 255,495 cases, valued at $942,525; coho or silver, 106,555 cases, valued at $600,140; and king or spring, 44,994 cases, valued at $459,897.

On Puget Sound the pack of sockeyes amounted to 97,035 cases, valued at $1,782,449; of pinks, 402,688 cases, valued at $1,732,219; of cohos, 76,806 cases, valued at $570,587; of chums, 28,431 cases, valued at $103,864; of red springs, 11,516 cases, valued at $136,605; of pink springs, 4,218 cases, valued at $22,791; of white springs, 9,628 cases, valued at $38,231; and of steelheads, 9 cases, valued at $136. The total pack on Puget Sound amounted to 630,331 cases, valued at $4,386,882.

The Columbia River pack, amounting to 334,009 cases, valued at $4,394,335, was graded as follows: Chinook, fancy, 231,632 cases, valued at $3,507,776; chinook, standard, 34,916 cases, valued at $354,295; chinook, pink, 9,067 cases, valued at $54,791; chinook, white, 7,372 cases, valued at $25,108; coho or silver, 30,395 cases, valued at $213,004; steelhead, 12,510 cases, valued at $133,747; sockeye or blueback, 6,851 cases, valued at $101,848; and chum or keta, 1,266 cases, valued at $3,766.

Canneries located on coastal streams of Washington packed 13,552 cases, valued at $93,082, consisting of 2,571 cases of chinooks or springs, valued at $28,538; 4,321 cases of cohos or silvers, valued at $22,537; 1,068 cases of sockeyes or bluebacks, valued at $21,350; 5,435 cases of chums, valued at $20,029; and 157 cases of humpbacks or pinks, valued at $628.

The pack on Oregon coastal streams, amounting to 15,760 cases, valued at $226,516, consisted of 15,638 cases of chinooks or springs, valued at $225,966, and 122 cases of cohos or silvers, valued at $550.

In California the pack was made up entirely of chinooks to the amount of 9,296 cases, valued at $133,610.

The following tables give the quantity and value of the pack of the various species of salmon canned during 1921, by geographic divisions, for the Pacific coast of the United States and Alaska, and by fishing districts for the Pacific coast States:

PACK OF CANNED SALMON ON THE PACIFIC COAST OF UNITED STATES AND ALASKA IN 1921, BY GEOGRAPHIC DIVISIONS.

Products.	Alaska.							
	Southeast.		Central.		Western.		Total.	
	Cases.	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*
Coho or silver:								
½-pound flat	4,004	$31,846	80	$640			4,084	$32,486
1-pound flat	7,918	51,710					7,918	51,710
1-pound tall	78,880	431,666	9,630	50,299	6,043	$33,979	94,553	515,944
Total	90,802	515,222	9,710	50,939	6,043	33,979	106,555	600,140
Chum or keta:								
½-pound flat	608	3,183					608	3,183
1-pound tall	180,839	650,134	34,571	127,508	39,477	161,700	254,887	939,342
Total	181,447	653,317	34,571	127,508	39,477	161,700	255,495	942,525

PACK OF CANNED SALMON ON THE PACIFIC COAST OF UNITED STATES AND ALASKA IN 1921, BY GEOGRAPHIC DIVISIONS—Continued.

Products.	Alaska.							
	Southeast.		Central.		Western.		Total.	
Humpback or pink:	*Cases.*	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*
½-pound flat	1,292	$8,774					1,292	$8,774
1-pound tall	415,489	1,750,743	7,147	$29,018	56	$243	422,692	1,780,004
Total	416,781	1,759,517	7,147	29,018	56	243	423,984	1,788,778
King, chinook, or spring:								
½-pound flat	2,396	37,840	1,665	24,588			4,061	62,428
1-pound flat	2,950	32,450	560	7,840	15,682	205,376	19,192	245,666
1-pound tall	3,763	25,396	6,404	47,843	11,574	78,564	21,741	151,803
Total	9,109	95,686	8,629	80,271	27,256	283,940	44,994	459,897
Red or sockeye:								
½-pound flat	17,958	279,429	29,970	440,769	12,903	90,179	60,831	810,377
1-pound flat	32,649	407,929	21,985	253,781	16,474	169,241	71,108	830,951
1-pound tall	54,325	453,350	531,087	4,599,963	1,048,447	9,146,763	1,633,859	14,200,076
Total	104,932	1,140,708	583,042	5,294,513	1,077,824	9,406,183	1,765,798	15,841,404
Grand total	803,071	4,164,450	643,099	5,582,249	1,150,656	9,886,045	2,596,826	19,632,744

Products.	Pacific Coast States.								Grand total.	
	Washington.		Oregon.		California.		Total.			
Coho or silver:	*Cases.*	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*
½-pound flat	38,480	$334,568	15,473	$126,228			53,953	$460,796	58,037	$493,282
1-pound flat	26,745	179,104	3,639	22,740			30,384	201,844	38,302	253,554
1-pound tall	24,120	127,278	3,186	16,760			27,306	144,038	121,859	659,982
Total	89,345	640,950	22,298	165,728			111,643	806,678	218,198	1,406,818
Chum or keta:										
½-pound flat	629	3,497	42	168			671	3,665	1,279	6,848
1-pound flat	137	548	500	1,400			637	1,948	637	1,948
1-pound tall	33,624	121,326	200	720			33,824	122,046	288,711	1,061,388
Total	34,390	125,371	742	2,288			35,132	127,659	290,627	1,070,184
Humpback or pink:										
½-pound flat	37,621	225,017					37,621	225,017	38,913	233,791
1-pound flat	36,286	181,430					36,286	181,430	36,286	181,430
1-pound tall	328,939	1,326,400					328,939	1,326,400	751,631	3,106,404
Total	402,846	1,732,847					402,846	1,732,847	826,830	3,521,625
King, chinook, or spring:										
½-pound flat	53,920	904,234	111,149	1,677,694	6,712	$102,602	171,781	2,684,530	175,842	2,746,958
½-pound oval	328	7,216	29	638			357	7,854	357	7,854
1-pound flat	48,930	560,738	79,557	965,592	2,584	31,008	131,071	1,557,338	150,263	1,803,004
1-pound oval	2,770	46,514	2,653	43,735			5,423	90,249	5,423	90,249
1-pound tall	17,037	117,586	10,185	70,154			27,222	187,740	48,963	339,543
Total	122,985	1,636,288	203,573	2,757,813	9,296	133,610	335,854	4,527,711	380,848	4,987,608
Red or sockeye:										
½-pound flat	76,956	1,462,016	2,954	45,088			79,910	1,507,104	140,741	2,317,481
1-pound flat	22,810	363,102					22,810	363,102	93,918	1,194,053
1-pound oval	228	3,420					228	3,420	228	3,420
1-pound tall	1,989	31,824	17	197			2,006	32,021	1,635,865	14,232,097
Total	101,983	1,860,362	2,971	45,285			104,954	1,905,647	1,870,752	17,747,051
Steelhead:										
½-pound flat	2,060	24,444	4,302	54,754			6,362	79,198	6,362	79,198
1-pound flat	334	3,297	5,720	50,358			6,054	53,655	6,054	53,655
1-pound tall	103	1,030					103	1,030	103	1,030
Total	2,497	28,771	10,022	105,112			12,519	133,883	12,519	133,883
Grand total	754,046	6,024,589	239,606	3,076,226	9,296	133,610	1,002,948	9,234,425	3,599,774	28,867,169

PACK OF CANNED SALMON IN PACIFIC COAST STATES IN 1921, BY FISHING DISTRICTS.

Locality and species.	1-pound tall.		1-pound flat.		1-pound oval.	
	Cases.	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*
Puget Sound:						
Coho or silver	18,633	$99,444	21,200	$148,296	.....	.....
Chum or keta	27,687	99,916	137	548	.....	.....
Humpback or pink	328,782	1,325,772	36,286	181,430	.....	.....
Sockeye or blueback	1,989	31,824	22,810	363,102	.....	.....
Chinook or spring—						
Red	451	3,603	7,805	82,647	.....	.....
Pink	63	259	3,695	18,475	.....	.....
White	9,085	35,527	243	972	.....	.....
Total	386,690	1,596,345	92,176	795,470	.....	.....
Columbia River:						
Coho or silver	4,845	25,115	8,824	51,676	.....	.....
Chum or keta	702	2,101	500	1,400	.....	.....
Sockeye or blueback	17	197	.....	.....	228	$3,420
Chinook or spring—						
Fancy	6,883	84,963	97,706	1,254,404	5,211	86,645
Standard	3,203	32,019	10,518	92,094	.....	.....
Pink	1,610	5,151	1,170	6,559	.....	.....
White	4,245	12,043	1,370	4,503	.....	.....
Steelhead	103	1,030	6,054	53,655	.....	.....
Total	21,608	162,619	126,142	1,464,291	5,439	90,065
Washington coast:						
Coho or silver	3,706	18,929	360	1,872	.....	.....
Chum or keta	5,435	20,029	.....	.....	.....	.....
Humpback or pink	157	628	.....	.....	.....	.....
Chinook or spring	1,065	9,239	380	3,952	.....	.....
Total	10,363	48,825	740	5,824	.....	.....
Oregon coast:						
Coho or silver	122	550	.....	.....	.....	.....
Chinook or spring	617	4,936	5,600	62,724	212	3,604
Total	739	5,486	5,600	62,724	212	3,604
California: Chinook	.....	.....	2,584	31,008	.....	.....
Grand total	419,400	1,813,275	227,242	2,359,317	5,651	93,669

Locality and species.	½-pound flat.		½-pound oval.		Total.	
	Cases.	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*
Puget Sound:						
Coho or silver	36,973	$322,847	.....	.....	76,806	$570,587
Chum or keta	607	3,400	.....	.....	28,431	103,864
Humpback or pink	37,620	225,017	.....	.....	402,688	1,732,219
Sockeye or blueback	72,236	1,387,523	.....	.....	97,035	1,782,449
Chinook or spring—						
Red	3,260	50,355	.....	.....	11,516	136,605
Pink	460	4,057	.....	.....	4,218	22,791
White	300	1,732	.....	.....	9,628	38,231
Steelhead	9	136	.....	.....	9	136
Total	151,465	1,995,067	.....	.....	630,331	4,386,882
Columbia River:						
Coho or silver	16,726	136,213	.....	.....	30,395	213,004
Chum or keta	64	265	.....	.....	1,266	3,766
Sockeye or blueback	6,606	98,231	.....	.....	6,851	101,848
Chinook or spring—						
Fancy	121,475	2,073,910	357	$7,854	231,632	3,507,776
Standard	21,195	230,182	.....	.....	34,916	354,295
Pink	6,287	43,081	.....	.....	9,067	54,791
White	1,757	8,562	.....	.....	7,372	25,108
Steelhead	6,353	79,062	.....	.....	12,510	133,747
Total	180,463	2,669,506	357	7,854	334,009	4,394,335
Washington coast:						
Coho or silver	255	1,736	.....	.....	4,321	22,537
Chum or keta	.....	.....	.....	.....	5,435	20,029
Humpback or pink	.....	.....	.....	.....	157	628
Sockeye or blueback	1,068	21,350	.....	.....	1,068	21,350
Chinook or spring	1,126	15,347	.....	.....	2,571	28,538
Total	2,449	38,433	.....	.....	13,552	93,082

PACK OF CANNED SALMON IN PACIFIC COAST STATES IN 1921, BY FISHING DISTRICTS—Continued.

Locality and species.	½-pound flat.		½-pound oval.		Total.	
	Cases.	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*
Oregon coast:						
Coho or silver					122	$550
Chinook or spring	9,209	$154,702			15,638	225,966
Total	9,209	154,702			15,760	226,516
California: Chinook	6,712	102,602			9,296	133,610
Grand total	350,298	4,960,310	357	$7,854	1,002,948	9,234,425

CANNED SARDINES.

The pack of sardines in Maine in 1921 amounted to 1,350,631 cases, valued at $3,960,916, as compared with 2,450,268 cases, valued at $11,933,986, in 1919 and with 1,877,757 cases, valued at $7,435,056, in 1920. The pack of quarter-oils in 1919 was 1,902,430 cases, valued at $9,327,665, or an average of $4.90 per case; in 1920, 1,458,670 cases, valued at $5,669,352, or $3.88 per case, and in 1921, 1,127,578 cases, valued at $3,265,574, or $2.89 per case. The quantity of herring utilized was 73,706,536 pounds, valued at $441,353.

The pack of sardines in California in 1921 was 415,587 cases, valued at $2,346,446, of which 379,928 cases, with a value of $2,056,367, were 1-pound ovals, or an average price of $5.41 per case. It is reported that the pack in 1920 amounted to 1,062,996 cases and in 1919 to 1,150,616 cases. The quantity of pilchards utilized was 33,274,853 pounds, valued at $175,165. It will be noted that there has been a heavy curtailment in production in both fisheries as compared with previous years.

PACK OF SARDINES IN MAINE AND CALIFORNIA, 1921.

Sardines (herring).	Maine.		Sardines (pilchard).	California.	
	Cases.	*Value.*		*Cases.*	*Value.*
In oil: Quarters (100 cans)	1,127,578	$3,265,574	1-pound oval (48 cans)	379,928	$2,056,367
In mustard:			½-pound oval (48 cans)	11,357	44,881
Quarters (100 cans)	111,987	345,787	½-pound square (100 cans)	586	7,465
Three-quarters (48 cans)	110,520	346,825	¼-pound square (100 cans)	20,893	208,033
In tomato sauce: Halves and			¼-pound flat (100 cans)	2,485	26,050
1-pound (48 cans)	546	2,730	No. 10 round (6 cans)	338	3,650
Total	1,350,631	3,960,916	Total	415,587	2,346,446

CANNED SHAD AND ALEWIVES.

The canning of shad and shad roe is confined to the States of Oregon and Washington. In 1921 the pack of shad amounted to 841 cases, valued at $2,455, and of shad roe to 53 cases, valued at $142. These products are packed in half-pound flat and oval and 1-pound tall cans.

Most of the alewives are canned in the Chesapeake Bay district. The pack of fish amounted to 312 cases, valued at $813, and of roe to 40,530 cases, valued at $157,841. Reducing cases to number of cans, there were packed in 1921, 8,976 cans of fish and 1,197,288 cans

of roe in Maryland and Virginia, including a small pack in North Carolina, as compared with 27,144 cans of fish and 1,191,048 cans of roe in the Chesapeake Bay district in 1915.

PACK OF SHAD AND ALEWIVES, BY STATES, 1921.

SHAD.

Sizes.	Oregon.		Washington.		Total.	
	Cases.	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*
½-pound flat (48 cans)	44	$132	315	$943	359	$1,075
½-pound oval (48 cans)	42	84	.....	.....	42	84
1-pound tall (48 cans)	328	984	112	312	440	1,296
Roe:						
½-pound flat (48 cans)	.....	.....	12	24	12	24
½-pound oval (48 cans)	.....	.....	17	51	17	51
1-pound tall (48 cans)	.....	.....	24	67	24	67
Total	414	1,200	480	1,397	894	2,597

ALEWIVES.

Sizes.	Maryland.		Virginia and North Carolina.		Total.	
	Cases.	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*
No. 1 (48 cans)	50	$170	12	$43	62	$213
No. 2 (24 cans)	250	600	.....	.....	250	600
Roe:						
No. ½ (48 cans)	.....	.....	1,000	6,400	1,000	6,400
No. 1 (48 cans)	2,600	12,640	5,757	29,705	8,357	42,345
No. 2 (24 cans)	3,168	12,554	28,005	96,542	31,173	109,096
Total	6,068	25,964	34,774	132,690	40,842	158,654

CANNED ALBACORE, TUNA, AND MACKEREL IN CALIFORNIA.

The pack of albacore, tuna, and mackerel in California in 1921 amounted to 421,076 cases, valued at $3,085,956. In 1915, the only one of these products packed was albacore to the value of $1,517,858. From available data it appears that the 1921 pack of the tunas was smaller than for any year since 1915.

PACK OF ALBACORE, TUNA, AND MACKEREL IN CALIFORNIA, 1921.

Sizes.	Albacore.		Tuna.				Mackerel.	
			Bluefin and yellowfin.		Striped.			
	Cases.	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*
½-pound round	24,964	$134,876	4,695	$24,408	2,122	$8,577	.....	.....
½-pound round	179,735	1,266,258	35,926	186,216	4,349	20,707	2,000	$11,000
½-pound oval	14,900	116,808	5,370	26,850	750	3,750	.....	.....
1-pound round	72,016	754,089	3,434	32,123	10,906	76,895	.....	.....
1-pound tall	831	9,557	.....	.....	.....	.....	255	1,275
1-pound oval	50,482	351,898	7,152	36,889	.....	.....	.....	.....
4-pound tall	1,189	23,780	.....	.....	.....	.....	.....	.....
Total	344,117	2,657,266	56,577	306,486	18,127	109,929	2,255	12,275

CANNED SHRIMP.

The pack of shrimp in the South Atlantic and Gulf States in 1921 amounted to 667,558 cases, valued at $3,804,781, as compared with a pack valued at $2,012,437 in 1918 and 448,443 cases, valued at $1,436,851, in 1916. Louisiana outranked the other States in 1921 with a pack of 273,218 cases, valued at $1,530,072, and Mississippi ranked second with a pack of 169,751 cases, valued at $958,268. The bulk of the shrimp are packed in No. 1 cans, 48 cans to the case.

PACK OF SHRIMP IN SOUTH ATLANTIC AND GULF STATES, 1921.

State.	No. 1 (4 dozen).		No. 1½ (2 dozen).		No. 2½ and No. 10 (2 dozen and ½ dozen).		Total.	
	Cases.	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*
Georgia [1]	69,193	$401,230	9,664	$55,998			78,857	$457,228
Florida	63,376	397,107	4,996	28,655			68,372	425,762
Alabama	68,086	380,210	9,116	51,819	158	$1,422	77,360	433,451
Mississippi	160,747	907,373	9,004	50,895			169,751	958,268
Louisiana	236,072	1,322,057	37,146	208,015			273,218	1,530,072
Total	597,474	3,407,977	69,926	395,382	158	1,422	667,558	3,804,781

[1] Includes the output of one plant in North Carolina.

CANNED CRABS.

In 1921 there were six establishments engaged in canning crabs, of which two each were in Virginia and Alaska and one each in Louisiana and Washington. The pack amounted to 11,960 cases, valued at $115,800. In 1920 the imports of crab meat amounted to 4,078,980 pounds, valued at $2,166,068. Of this amount, 4,013,530 pounds, valued at $2,144,928, are credited to Japan; 32,806 pounds, valued at $3,437, to Canada; 20,016 pounds, valued at $13,241, to Hongkong; and 12,628 pounds, valued at $4,462, to Norway.

PACK OF CRABS, BY STATES, 1921.

Sizes.	Virginia, Washington, Louisiana, and Alaska.	
	Cases.	*Value.*
3½ and 8 ounce (2 dozen)	840	$4,080
7½, 8, and 9 ounce (4 dozen)	7,550	69,780
15, 16, and 17 ounce (2 dozen)	3,570	41,940
Total	11,960	115,800

CANNED CLAMS.

The 1921 pack of canned clams amounted to 226,130 cases, valued at $1,166,507, of which 92,085 cases, valued at $509,122, were razor clams, packed chiefly in Oregon and Washington; 46,207 cases, valued at $212,846, hard clams, accredited to Florida and Washington; and 87,838 cases, valued at $444,539, soft clams, accredited to Maine and Massachusetts. The value of the pack of whole clams was $537,767; of minced clams, $446,298; and of clam bouillon, chowder, extract, and juice, $182,442.

Following are the statistics of canned clams, the combinations made in the tables being necessary to avoid disclosing private enterprise:

PACK OF CLAMS, BY STATES, 1921.

RAZOR CLAMS.

Sizes.	Oregon.		Washington and Alaska.		Total.	
Whole:	*Cases.*	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*
7-ounce cans (4 dozen)	433	$3,464	5,499	$41,503	5,932	$44,967
9-ounce cans (4 dozen)	500	2,750			500	2,750
16-ounce cans (4 dozen)			[1] 1,420	9,940	1,420	9,940
45-ounce cans (½ dozen)			1,593	17,284	1,593	17,284
Minced:						
3½-ounce cans (4 dozen)	4,712	23,090	45,097	224,965	49,809	248,055
5-ounce cans (4 dozen)	3,421	19,166	24,728	144,335	28,149	163,501
9-ounce cans (4 dozen)	171	1,710	3,758	18,384	3,929	20,094
Juice:						
No. 1 cans (4 dozen)			20	55	20	55
No. 2 cans (2 dozen)			565	1,300	565	1,300
No. 10 cans (½ dozen)			168	1,176	168	1,176
Total	9,237	50,180	82,848	458,942	92,085	509,122

HARD CLAMS.

Sizes.	Florida and Washington.		Sizes.	Florida and Washington.	
Whole:	*Cases.*	*Value.*	Bouillon, chowder, and juice:	*Cases.*	*Value.*
No. 1 cans (4 dozen)	9,883	$58,175	No. 1 cans (4 dozen)	8,341	$30,211
No. 2 cans (2 dozen)	8,658	39,463	No. 2 cans (2 dozen)	2,430	7,190
No. 10 cans (½ dozen)	3,672	26,413	No. 3 cans (2 dozen)	4,788	20,413
Minced:			No. 10 cans (½ dozen)	184	501
No. 1 cans (4 dozen)	2,457	10,255	1½ and 3 ounce bottles	1,753	5,257
No. 2 cans (2 dozen)	901	3,708	7 and 14 ounce bottles (2 dozen)	3,060	10,575
No. 10 cans (½ dozen)	80	685			
			Total	46,207	212,846

SOFT CLAMS.

Sizes.	Maine and Massachusetts.		Sizes.	Maine and Massachusetts.	
Whole:	*Cases.*	*Value.*	Bouillon, chowder, and extract:		
4 and 5 ounce cans (4 dozen)	26,403	$134,203	2, 4, and 8 ounce jars and bottles (2 dozen)	*Cases.* 1,349	*Value.* $5,702
6 and 8½ ounce cans (2 dozen)	3,525	14,017	10 and 10½ ounce cans (2 dozen)	10,548	45,803
8-ounce cans (4 dozen)	10,075	67,783	1-pound cans (4 dozen)	3,735	17,555
10-ounce cans (2 dozen)	4,429	22,250	3 and 6 pound cans (2 dozen)	7,977	36,704
15 and 16 ounce cans (4 dozen)	13,416	68,571			
2-pound cans (2 dozen)[2]	6,381	31,951	Total	87,838	444,539

[1] Packed in Alaska.

[2] Includes small pack of clam chowder.

CANNED OYSTERS.

The pack of oysters in 1921 amounted to 455,550 cases, valued at $2,179,271. Maryland leads in the quantity and value of the pack, Mississippi ranking second, and South Carolina third.

PACK OF OYSTERS, BY STATES, 1921.

Sizes.	Maryland.		North Carolina.		South Carolina.		Georgia.	
	Cases.	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*
3-ounce cans (4 dozen)					200	$720		
4-ounce cans (4 dozen)	21,616	$77,698	450	$2,520	2,082	8,865		
5-ounce cans (4 dozen)	92,000	440,001	11,333	56,726	94,698	417,653	11,332	$60,760
6-ounce cans (4 dozen)	10,799	50,202			300	2,100	200	1,400
7-ounce cans (2 dozen)	262	900						
8-ounce cans (2 dozen)	5,679	28,930			450	1,980		
10-ounce cans (2 dozen)	25,975	179,944	2,734	14,056	17,687	69,993	1,092	5,460
12-ounce cans (2 dozen)	100	760					50	400
Total	156,431	778,435	14,517	73,302	115,417	501,311	12,674	68,020

Sizes.	Florida.		Alabama and Louisiana.		Mississippi.		Total.	
	Cases.	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*	*Cases.*	*Value.*
3-ounce cans (4 dozen)							200	$720
4-ounce cans (4 dozen)			1,310	$6,288	28,489	$132,951	53,947	228,322
5-ounce cans (4 dozen)	3,213	$14,758	6,125	28,210	75,878	376,247	294,579	1,394,355
6-ounce cans (4 dozen)			503	2,616			11,802	56,318
7-ounce cans (2 dozen)							262	900
8-ounce cans (2 dozen)			501	2,405	17,903	84,379	24,533	117,694
10-ounce cans (2 dozen)	418	2,006	503	2,515	21,668	105,828	70,077	379,802
12-ounce cans (2 dozen)							150	1,160
	3,631	16,764	8,942	42,034	143,938	699,405	455,550	2,179,271

MISCELLANEOUS CANNED FISHERY PRODUCTS.

In addition to the products given in the tables, there were packed in Maine, Massachusetts, and North Carolina 259,644 cases of miscellaneous fishery products, valued at $778,978; in California, 2,186 cases of abalone, valued at $15,496, 11,712 cases of barracuda, yellowtail, and fish cakes, valued at $77,967, and 666 cases of squid and mussels, valued at $4,998; and in Washington and Oregon, other canned salmon products to the value of $69,170.

BY-PRODUCTS OF THE FISHERIES.

The bureau has continued its efforts to bring about a more complete utilization of the waste products of the fisheries and their conversion into products of the greatest economic value. The postwar slump in the prices of scrap and oil served to curtail greatly the production as compared with recent years.

FISH OILS.

The production of fish oils in 1921 in the United States and Alaska amounted to 7,446,281 gallons, valued at $2,078,670. Of this amount the largest item was menhaden oil, 6,260,478 gallons, the production of other oils being as follows: Whale oil, 354,372 gallons; herring

oil, 283,815 gallons; sperm oil, 168,729 gallons; salmon oil, 71,522 gallons; cod and cod-liver oil, 49,772 gallons; and miscellaneous, 257,593 gallons. Imports of fish oils entered for consumption for the calendar year 1920 amounted to 2,268,736 gallons, valued at $2,462,232. This amount includes cod oil, 1,044,624 gallons, valued at $979,891; cod-liver oil, 445,167 gallons, valued at $892,965; herring and other fish oils, 575,842 gallons, valued at $402,325; seal oil, 13,085 gallons, valued at $11,761; sperm oil, 99,783 gallons, valued at $98,033; other whale oil, 86,788 gallons, valued at $75,176; and other rendered oils and combinations of, 3,447 gallons, valued at $2,081. The exports of fish oils in 1920 amounted to 428,292 gallons, valued at $406,966. Of this amount 253,494 gallons, valued at $185,502 went to England; 53,690 gallons, valued at $50,943, to Canada; 26,452 gallons, valued at $24,850, to Cuba; 14,662 gallons, valued at $30,431, to Mexico; 14,596 gallons, valued at $7,298, to Belgium; 13,513 gallons, valued at $36,564, to Germany; and 13,419 gallons, valued at $8,700, to France.

FISH SCRAP AND MEAL.

The production of fish and whale scrap and meal and shrimp bran in 1921 amounted to 107,273 tons, valued at $3,557,142. Of this amount 60,031 tons, valued at $2,613,361, was dried scrap and meal; 44,454 tons, valued at $895,140, acidulated scrap; 2,160 tons, valued at $31,827, crude or green scrap; and 628 tons, valued at $16,814, shrimp bran. Of the total quantity produced 89,559 tons are credited to the Atlantic and Gulf coast States and 17,714 tons to the Pacific coast States and Alaska. It is estimated that not less than 15,000 tons of the dried product produced on the Atlantic seaboard were used as fish meal for feeding purposes. This increased use of fish meal is directly attributable to the aid given by the Bureau of Fisheries and the Bureau of Animal Industry.

POULTRY GRIT AND LIME.

The demand for and use of ground oyster shells for poultry grit and lime for fertilizer has developed rapidly in recent years into an important industry. In fact, when consideration is given to the decline in the catch of oysters in recent years and the utilization of stocks accumulated before the demand became so great, it is to be expected that there will be a lessening of production and a decrease in the number of operators. At the same time efforts will be made to draw upon other similar materials, such as scallops, clams, etc., in an effort to meet the demand.

ANALYSES OF SHELLS OF OYSTERS AND SCALLOPS.

	Oysters.	Scallops.		Oysters.	Scallops.
Calcium carbonate	93.12	97.35	Magnesium oxide	0.25	0.32
Silica, iron, and aluminum oxides	3.55	.40	Calcium oxide	52.15	54.52

From the analyses it will be noted that the scallop shells have a much smaller percentage of impurities, silica, iron, and aluminum, than oyster shells. As the scallop shells grind to a snow-white

powder, it is possible that they may be superior to oyster shells for some purposes. As a poultry feed, it is possible that little difference will be found between the two. However, the bureau has arranged with the division of poultry husbandry of the Department of Agriculture to ascertain whether any differences can be detected.

In 1921 there were 54 plants engaged in the production of poultry grit or lime, of which 18 were in Maryland, 11 in Virginia, 5 in Louisiana, 4 in Mississippi, and 3 in Florida. The production of poultry grit amounted to 185,474 tons, valued at $1,759,120, and of lime to 73,764 tons, valued at $502,634, or a combined production of 259,238 tons, valued at $2,261,754.

PRODUCTION OF POULTRY GRIT AND LIME FROM GROUND OYSTER SHELLS, BY STATES, 1921.

State.	Poultry grit.		Lime.		Total.	
	Tons.	*Value.*	*Tons.*	*Value.*	*Tons.*	*Value.*
Rhode Island, Pennsylvania, and New Jersey	15,239	$157,372	5,241	$29,084	20,480	$186,456
Maryland	51,408	492,958	26,859	148,624	78,267	641,582
Virginia	26,150	325,125	33,478	306,645	59,628	631,770
North Carolina, South Carolina, and Georgia	2,957	26,630	1,555	9,535	4,512	36,165
Florida and Alabama	48,855	392,340	3,045	4,810	51,900	397,150
Mississippi, Louisiana, and Texas	40,865	364,695	3,586	3,936	44,451	368,631
Total	185,474	1,759,120	73,764	502,634	259,238	2,261,754

MENHADEN INDUSTRY.

In 1921 there were 39 factories engaged in utilizing menhaden for the production of scrap, meal, and oil, distributed as follows: Massachusetts, 2; Connecticut, 1; New York, 2; New Jersey, 3; Delaware, 1; Virginia, 14; North Carolina, 15; and Florida, 1. The number of menhaden utilized was 1,031,540,831, or 618,924,499 pounds, valued at $1,929,219, as compared with 1,061,843,750 menhaden, or 637,106,250 pounds, valued at $2,210,165, in 1912. The yield of scrap and meal in 1921 was 82,662 tons, valued at $2,286,095, as compared with 88,520 tons, valued at $2,138,165, in 1912, and 6,260,478 gallons of oil, valued at $1,719,892, in 1921, as compared with 6,651,203 gallons, valued at $1,551,990, in 1912.

PRODUCTS OF MENHADEN INDUSTRY, BY STATES, 1921.

Products.	Massachusetts, Connecticut, and New York.		New Jersey and Delaware.		Virginia.	
	Quantity.	*Value.*	*Quantity.*	*Value.*	*Quantity.*	*Value.*
Fish utilized: Menhaden ..... number..	228,229,333	$506,906	84,760,000	$179,710	403,340,000	$806,120
Manufactured products:						
Dry scrap and fish meal ..... tons..	125	5,875	.....	.....	30,311	1,106,855
Acidulated scrap....do....	24,850	520,000	10,760	215,200	.....	.....
Crude or green scrap ..... tons..	350	10,500	.....	.....	.....	.....
Total .....do....	25,325	536,375	10,760	215,200	30,311	1,106,855
Oil.....gallons..	2,066,812	591,745	789,666	187,377	2,210,000	605,760
Grand total.....	.....	1,128,120	.....	402,577	.....	1,712,615

PRODUCTS OF MENHADEN INDUSTRY, BY STATES, 1921—Continued.

Products.	North Carolina and Florida.		Total.	
	Quantity.	*Value.*	*Quantity.*	*Value.*
Fish utilized: Menhaden.....number..	315,211,498	$436,483	[1]1,031,540,331	$1,929,219
Manufactured products:				
Dry scrap and fish meal.....tons..	7,422	267,725	[2] 37,858	1,380,455
Acidulated scrap.....do....	8,844	159,940	44,454	895,140
Crude or green scrap.....do....	.....	.....	350	10,500
Total.....	16,266	427,665	82,662	2,286,095
Oil.....gallons..	1,194,000	335,010	6,260,478	1,719,892
Grand total.....	.....	762,675	.....	4,005,987

[1] 618,924,499 pounds.
[2] Of this quantity 5,396 tons, valued at $250,130, were reported as sold as fish meal.

MISCELLANEOUS BY-PRODUCTS.

In addition to the production of poultry grit and lime and the products of the menhaden industry, miscellaneous by-products—scrap, meal, and oil, shrimp bran, liquid glue, shark and porpoise hides, agar-agar, fish-scale essence, shark fins, whalebones (skeletons), etc.—were produced to the value of $2,084,086. It is impracticable to reveal the quantity and value of many of these products without disclosing private enterprise.

MISCELLANEOUS FISHERY BY-PRODUCTS, BY STATES, 1921.

Products.	Maine and Massachusetts.		New York, Maryland, and Virginia.		North Carolina, Florida, Mississippi, and Louisiana.		California.	
	Quantity.	*Value.*	*Quantity.*	*Value.*	*Quantity.*	*Value.*	*Quantity.*	*Value.*
Fish scrap and meal:								
Dried.....tons..	2,365	$74,817	1,344	$38,035	750	$36,750	15,293	$926,020
Crude or green .....tons..	1,810	21,327	.....	.....	.....	.....	.....	.....
Shrimp bran .....tons..	.....	.....	.....	.....	628	16,814	.....	.....
Oil:								
Sardine..gallons..	.....	.....	.....	.....	.....	.....	170,977	35,760
Herring....do....	27,900	5,499	.....	.....	.....	.....	.....	.....
Sperm oil..do....	168,729	94,767	.....	.....	.....	.....	.....	.....
Liver.....do....	43,757	16,193	.....	.....	.....	.....	.....	.....
Cod-liver..do....	6,015	3,965	.....	.....	.....	.....	.....	.....
Miscellaneous .....gallons..	1,161	1,033	33,585	4,520	16,499	4,970	451,770	123,115
Liquid glue....do....	347,048	364,415	.....	.....	.....	.....	.....	.....
Miscellaneous by-products..pounds..	1,125	12,000	.....	.....	191,840	24,184	340,042	10,462
Total.....	.....	594,016	.....	42,555	.....	82,718	.....	1,095,357

Products.	Oregon and Washington.		Alaska.		Total.	
	Quantity.	*Value.*	*Quantity.*	*Value.*	*Quantity.*	*Value.*
Fish scrap and meal:						
Dried.....tons..	1,743	$116,604	678	$40,680	22,173	$1,232,906
Crude or green.....do....	.....	.....	.....	.....	1,810	21,327
Shrimp bran.....do....	.....	.....	.....	.....	628	16,814
Oil:						
Salmon.....gallons..	56,512	16,060	15,010	4,102	71,522	20,162
Sardine.....do....	.....	.....	.....	.....	170,977	35,760
Herring.....do....	.....	.....	84,938	21,236	112,838	26,735
Sperm oil.....do....	.....	.....	.....	.....	168,729	94,767
Liver.....do....	.....	.....	.....	.....	43,757	16,193
Cod-liver.....do....	.....	.....	.....	.....	6,015	3,965
Miscellaneous.....do....	108,950	27,558	.....	.....	611,965	161,196
Liquid glue.....do....	.....	.....	.....	.....	347,048	364,415
Miscellaneous by-products.....pounds..	288,000	43,200	.....	.....	821,007	89,846
Total.....	.....	203,422	.....	66,018	.....	2,084,086

FIG. 2.—MENHADEN STEAMERS ON FISHING AREAS.

FIG. 3.—MENHADEN FISHERY. PURSE-SEINE CATCH BUNTED UP FOR TRANSFER TO VESSEL'S HOLD.

FISH LEATHER.

There is continued interest in the use of shark skins for tanning into leather, and fancy leathers of excellent quality and appearance are being tanned. It has also been demonstrated that shoes made of shark leather wear fully as well as high-grade calfskin shoes and retain a better finish without abrasions. The present tendency in finishing these leathers is to retain the special characteristics and finish, which adds much to the attractiveness of such articles. As the unexpended balance of the special appropriation for "Developing aquatic sources of leather" was not made available for use during the current fiscal year, the bureau is restricted by lack of funds as to the service it might render in developing this industry. Of the $10,000 provided in the act approved by Congress June 12, 1917, there were expended during the five years ended June 30, 1922, $5,759.39.

FISH-SCALE ESSENCE.

It is reported that the production of fish-scale essence in the United States is sufficient to satisfy the demand, and inquiries have been received from abroad relative to obtaining supplies in this country. It is estimated that this commodity was produced in 1921 to a value exceeding $15,000.

AGAR-AGAR.

Agar-agar, one of the most useful seaweed products, is now being produced in southern California and gives promise of becoming an industry of some importance. It is reported that along the coast of southern California there are at least 15 species of algæ suitable for the purpose as compared with 7 or 8 in Japan. The red algæ, from which agar is chiefly made, grows unusually large on the California coast, reaching a height of 3 or 4 feet. The material is gathered chiefly by Japanese divers and to some extent by wading along the beaches at low tide. It is dried in the sun on the beach and is baled for shipment to the factory.

The manufacturers are endeavoring to develop gelatinous substances of varying characters suited to a large number of new uses for such products. The extent of the supply of the seaweeds suitable for the purpose will, it is believed, fix the limitations on the industry.

NEW ENGLAND VESSEL FISHERIES.

GENERAL STATISTICS.

In the vessel fisheries at Boston and Gloucester, Mass., and Portland, Me., during the past year there was a decrease in the number of trips and also in the quantity and value of the products as compared with the previous year. At Boston there was a decrease in the products landed of 11.96 per cent in quantity and 31.71 per cent in value, and at Gloucester a decrease of 29.36 per cent in the quantity and 36.98 per cent in the value. In the products landed at Portland there was an increase of 3.84 per cent in the quantity but a decrease of 2.83 per cent in the value. Statistics of these fisheries have been collected by the local agents and published in monthly bulletins showing by species and fishing grounds the quantities and values of fishery products landed by American and Canadian fishing vessels during the year

at these ports. Two annual bulletins have been issued, one showing the catch by months and the other by fishing grounds.

The fishing fleet at these ports during the calendar year 1921 numbered 398 sail, steam, and gasoline screw vessels, including 23 American and 3 Canadian steam trawlers. These vessels landed at Boston 3,078 trips, aggregating 104,368,629 pounds of fish, valued at $4,190,135; at Gloucester, 2,073 trips, aggregating 33,016,166 pounds, valued at $920,250; and at Portland, 2,055 trips, aggregating 13,480,311 pounds, valued at $612,244. The total for the three ports amounted to 7,206 trips, aggregating 150,865,106 pounds of fresh and salted fish, having a value to the fishermen of $5,722,629. This total includes 72 trips—49 at Boston, 7 at Gloucester, and 16 at Portland—landed by 22 Canadian fishing vessels, amounting to 4,222,319 pounds of fish, valued at $127,549. Of this quantity, 1,849,702 pounds, valued at $65,388, were landed at Boston; 239,209 pounds, valued at $8,409, at Gloucester; and 2,133,408 pounds, valued at $53,752, at Portland. There was an increase of 4 vessels and 18 trips and of 1,634,101 pounds in the quantity and $8,521 in the value of fish landed as compared with the previous year. These fish were landed in accordance with an arrangement with the Canadian Government as an emergency war measure granting reciprocal privileges to fishing vessels, by which Canadian fishing vessels were permitted to land their fares at American ports direct from the fishing grounds. Canadian vessels began to utilize this privilege in April, 1918, and the arrangement was canceled to take effect July 15, 1921, but a number of trips were admitted after that date, the last one being landed in September.

Compared with the previous year there was a decrease of 400 trips, or 5.25 per cent, in the total number landed by the fishing fleet at Boston, Gloucester, and Portland and of 27,415,595 pounds, or 15.37 per cent, in the quantity and of $2,504,384, or 30.44 per cent, in the value of the products landed. The only important species showing an increase in both quantity and value was halibut. The catch of halibut increased 1,876,698 pounds, or 49.52 per cent, in quantity and $61,253, or 8.25 per cent, in value. The catch of cusk increased 243,676 pounds, or 13.13 per cent, in quantity but decreased $10,241, or 21.30 per cent, in value. There was a decrease in both quantity and value of the catch of all the other more important species. The catch of cod decreased 8,750,568 pounds, or 14.05 per cent, in quantity and $906,870, or 34.38 per cent, in value; haddock, 7,866,768 pounds, or 10.45 per cent, in quantity and $693,882, or 25.32 per cent, in value; hake, 185,248 pounds, or 3.92 per cent, in quantity and $44,273, or 28.77 per cent, in value; pollock, 1,615,890 pounds, or 18.87 per cent, in quantity and $97,486, or 37.19 per cent, in value; mackerel, 3,909,541 pounds, or 53.60 per cent, in quantity and $427,468, or 56.01 per cent, in value; herring, 4,384,444 pounds, or 62.65 per cent, in quantity and $125,894, or 75.70 per cent, in value; and swordfish, 934,024 pounds, or 36.89 per cent, in quantity and $175,796, or 35.57 per cent, in value. The catch of Newfoundland herring declined from 3,097,024 pounds, valued at $110,157, in 1920, to 551,400 pounds, valued at $19,584, in 1921. In the various other species combined there was a decrease of 1,889,486 pounds, or 37.89 per cent, in quantity and of $83,727, or 38.08 per cent, in value.

The catch of cod, haddock, and hake is sold in different grades as landed from the vessels. Cod are sold as large, market, and scrod; haddock as large and scrod; and hake as large and small. It will be noticed in the statistics that the quantity of scrod cod and scrod haddock is very small as compared with that of the other grades of these species. This is said to be due to the fact that the price received for scrod cod and scrod haddock is so low that the fishermen do not save all that are caught. The catch of scrod cod landed at these ports during the year was 1,150,577 pounds, valued at $10,844, and of scrod haddock only 30,562 pounds, valued at $535.

The following tables present in detail, by fishing grounds and by months, the fishery products landed at Boston and Gloucester, Mass., and Portland, Me., by American and Canadian fishing vessels for the calendar year 1921. The weights of fresh and salted fish given in these statistics represent the fish as landed from the vessels, and the values are those received by the fishermen. The grades or sizes given for certain species are those recognized in the trade.

STATEMENT, BY FISHING GROUNDS, OF QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, CALENDAR YEAR 1921.

Fishing grounds.	Number of trips.	Cod.											
		Large (10 pounds and over).				Market (under 10 and over 2½ pounds).				Scrod (1 to 2½ pounds).			
		Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
LANDED AT BOSTON.													
East of 66° W. longitude.													
		Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
By American vessels:													
La Have Bank	59	666,927	$28,149			396,558	$10,053			6,425	$55		
Western Bank	26	208,900	9,819	9,760	$390	57,450	1,471	6,595	$198				
Quereau Bank	16	36,785	1,386			6,500	172						
Grand Bank	34	22,635	876	3,850	173								
Cape Shore	59	207,578	11,376					400	12				
Gulf of St. Lawrence	1	24,750	1,052			234,350	6,436			20,100	190		
Roseway Bank	1	14,000	1,440										
By Canadian vessels:						18,300	828			7,000	70		
La Have Bank	2	24,575	789										
Western Bank	2	2,000	150			11,970	398			1,345	7		
						5,550	167						
West of 66° W. longitude.													
By American vessels:													
Browns Bank	256	3,306,450	159,261	9,500	333	3,021,262	80,872			94,220	815		
Georges Bank	706	10,305,759	370,550			4,508,860	111,477			150,255	1,336		
Clark Bank	2	24,140	1,024			22,050	372			850	4		
Fippenies Bank	9	34,535	2,964			26,290	1,205			5,470	88		
Middle Bank	93	118,941	8,015			111,024	3,810			28,170	297		
Jeffreys Ledge	123	129,615	8,674			129,375	4,429			57,170	542		
South Channel	740	2,517,620	130,441			2,268,464	60,155			160,420	1,433		
Nantucket Shoals	32	85,540	4,772			158,735	4,444			6,605	81		
Off Chatham	92	361,245	15,520			233,300	5,942			24,475	232		
Seal Island	1	23,800	833			20,000	400						
Shore, general	770	916,775	42,388			389,866	11,861			33,425	300		
By Canadian vessels:													
Browns Bank	20	202,531	8,819			402,390	7,982			11,715	106		
Georges Bank	22	200,600	7,415			224,610	3,694			5,470	65		
South Channel	3	4,095	191			9,100	204						
Total	3,078	19,439,796	815,904	23,110	896	12,256,004	316,372	6,995	210	613,115	5,621		

LANDED AT GLOUCESTER.													
East of 66° W. longitude.													
By American vessels:													
La Have Bank	26	612,189	13,288	7,425	295	744,634	10,589	3,635	122	5,545	42		
Western Bank	38	735,552	14,733	670,465	28,975	440,280	6,718	449,455	17,189	3,650	52	25,935	$585
Quereau Bank	16	96,441	2,050	172,986	7,267	44,480	756	39,020	1,393	405	3	1,055	24
Green Bank	18	53,853	1,273	143,086	5,769	2,535	34	12,872	412			2,445	44
Grand Bank	60	145,743	3,158	1,440,497	60,576	6,050	98	655,115	24,336	110	1	57,760	1,364
St. Peters Bank	6	2,400	36	253,925	10,567	195	2	246,840	9,197			12,310	259
Sambro Bank	1			8,620	345			1,800	63			100	2
Burgeo Bank	1			5,285	211			320	11				
Cape Shore	30	97,975	2,414			113,585	2,212	6,600	173	4,030	34	250	3
The Gully	15	12,515	289	158,420	6,266	3,270	54	27,175	1,026				
By Canadian vessels:													
Western Bank	2	400	10			4,315	80			400	4		
Quereau Bank	1			19,150	795			2,340	82				
Cape Shore	1					15,315	306			2,000	20		
West of 66° W. longitude.													
Browns Bank	53	1,012,368	22,015	20,020	831	1,219,446	20,305	11,235	364	17,395	132	185	5
Georges Bank	195	3,663,565	81,707	435,393	18,108	1,481,331	24,302	81,682	2,928	39,245	337	4,255	93
Middle Bank	1			62,065	2,638			15,400	578			235	2
South Channel	41	54,645	1,163			148,785	2,442			795	7		
Shore, general	1,558	1,289,733	45,958	525	21	6,615	104			1,485	19		
By Canadian vessels: Georges Bank	3			41,130	1,724			40,960	1,502			2,735	54
Total	2,073	7,777,379	188,094	3,438,992	143,488	4,230,836	68,002	1,594,449	59,406	75,060	651	107,265	2,435
LANDED AT PORTLAND.													
East of 66° W. longitude.													
By American vessels:													
La Have Bank	4	13,370	334	2,250	45	18,130	317	1,225	18	3,770	19		
Western Bank	9			61,940	2,987			2,600	20				
Quereau Bank	9			22,390	1,008			800	30				
Grand Bank	17	5,890	265	37,438	1,685	155	6	5,165	193				
Cape Shore	7			110	5			76	3				
The Gully	10	22,945	507	53,670	2,655	3,150	54	10,045	377				
By Canadian vessels:													
La Have Bank	1			14,340	717								
Western Bank	10	241,500	4,362	6,625	281	214,060	4,289	2,395	84	1,000	20		
Grand Bank	1	20,800	726										

STATEMENT, BY FISHING GROUNDS, OF QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, CALENDAR YEAR 1921—Continued.

Fishing grounds.	Number of trips.	Cod.											
		Large (10 pounds and over).				Market (under 10 and over 2½ pounds).				Scrod (1 to 2½ pounds).			
		Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
LANDED AT PORTLAND—continued.													
West of 66° W. longitude.		*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
By Canadian vessels—Continued.													
Georges Bank	25			8,550	$385			630	$24				
Cashes Bank	3	9,025	$199			3,495	$58			495	$3		
Fippenies Bank	4	15,170	568			6,970	225			1,580	12		
Platts Bank	75	194,464	8,706			104,614	2,749			42,620	227		
Jeffreys Ledge	175	223,179	11,374			233,311	5,821			102,764	577		
Shore, general	1,690	1,598,191	65,055	6,618	329	430,510	11,054	415	16	202,233	1,266	675	$13
By Canadian vessels: South Channel	1	665	20										
Total	2,055	2,345,199	92,116	213,931	10,097	1,014,395	24,573	23,351	765	354,462	2,124	675	13
Grand total	7,206	29,562,374	1,096,114	3,676,033	154,481	17,501,235	408,947	1,624,795	60,381	1,042,637	8,396	107,940	2,448

Fishing grounds.	Number of trips.	Haddock.						Hake.					
		Large (over 2½ pounds).				Scrod (1 to 2½ pounds).		Large (6 pounds and over).				Small (under 6 pounds).	
		Fresh.		Salted.		Fresh.		Fresh.		Salted.		Fresh.	
LANDED AT BOSTON.													
East of 66° W. longitude.													
		Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
By American vessels:													
La Have Bank	59	939,715	$37,201					2,010	$138			19,715	$307
Western Bank	26	225,400	8,325									4,000	118
Quereau Bank	16											3,500	40
Grand Bank	34											5,020	90
Cape Shore	59	105,780	2,429									5,900	141
Gulf of St. Lawrence	1	12,000	255										
Roseway Bank	1	2,900	161										
By Canadian vessels:													
La Have Bank	2	49,300	2,447										
Western Bank	2	13,000	540										
West of 66° W. longitude.													
By American vessels:													
Browns Bank	256	3,650,682	155,035					10,375	266			57,710	1,389
Georges Bank	706	14,501,838	419,284			18,700	$374	7,915	342			50,730	1,323
Clark Bank	2	68,700	2,245									1,300	39
Fippenies Bank	9	24,565	1,523					7,010	494			75,968	2,558
Middle Bank	93	736,328	34,524					30,760	2,336			171,634	6,648
Jeffreys Ledge	123	487,100	21,029					20,005	1,389			242,585	6,139
South Channel	740	32,101,721	957,824			2,200	31	367,219	9,670			1,603,571	30,298
Nantucket Shoals	32	123,765	2,564									1,540	114
Off Chatham	92	1,372,625	56,631					24,950	1,012			75,177	2,590
Seal Island	1	325	3										
Shore, general	770	293,407	12,364			250	3	14,920	407			155,988	2,796
By Canadian vessels:													
Browns Bank	20	45,485	1,546										
Georges Bank	22	198,940	6,581										
South Channel	3	267,000	8,437									800	8
Total	3,078	55,220,576	1,730,948			21,150	408	485,164	16,054			2,474,738	54,598

STATEMENT, BY FISHING GROUNDS, OF QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, CALENDAR YEAR 1921—Continued.

Fishing grounds.	Number of trips.	Haddock.						Hake.					
		Large (over 2½ pounds).				Scrod (1 to 2½ pounds).		Large (6 pounds and over).				Small (under 6 pounds).	
		Fresh.		Salted.		Fresh.		Fresh.		Salted.		Fresh.	
LANDED AT GLOUCESTER.													
East of 66° W. longitude.													
		Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
By American vessels:													
La Have Bank	26	421,575	$3,940					34,225	$339				
Western Bank	38	128,080	1,152					6,513	69	6,220	$112		
Quereau Bank	16	83,360	780	2,950	$44			5,960	62	2,130	32		
Green Bank	18							8,010	101	4,163	66		
Grand Bank	60			65	1			27,205	277	26,555	500		
St. Peters Bank	6							270	2	1,080	14		
Burgeo Bank	1									150	3		
Cape Shore	30	23,945	240					3,310	33				
The Gully	15	155	1					2,525	32	720	14		
By Canadian vessels:													
Western Bank	2	47,290	1,182										
Quereau Bank	1												
Cape Shore	1									60	1		
West of 66° W. longitude.								290	6				
Browns Bank	53	647,465	5,636	10,925	110								
Georges Bank	195	2,832,379	31,807					19,550	196				
South Channel	41	2,362,365	21,723					51,680	556	895	17		
Shore, general	1,558	2,665,205	135,429					28,305	244				
By Canadian vessels: Georges Bank	3	420	8	1,350	27			404,021	15,890				
Total	2,073	9,212,239	201,898	15,290	182			591 864	17,807	41,973	759		

LANDED AT PORTLAND.													
East of 66° W. longitude.													
By American vessels:													
La Have Bank	4	17,440	615									450	5
Grand Bank	17									200	3		
Cape Shore	7									60	3		
The Gully	10											80	2
By Canadian vessels:													
La Have Bank	1											2,300	17
Western Bank	10	1,306,965	27,779			300	6						
Grand Bank	1											1,575	51
West of 66° W. longitude.													
Cashes Bank	3	30	1									660	4
Fippenies Bank	4	9,870	622			105	1					2,615	49
Platts Bank	75	68,101	4,122			590	10	31,215	660			163,350	3,055
Jeffreys Ledge	175	606,886	34,071			5,561	68	12,635	366			305,998	7,153
Shore, general	1,690	728,615	41,965			2,856	42	15,884	593			405,347	8,424
By Canadian vessels: South Channel	1	196,135	3,432										
Total	2,055	2,934,042	112,607			9,412	127	59,734	1,619	260	6	882,375	18,760
Grand total	7,206	67,366,857	2,045,453	15,290	182	30,562	535	1,136,762	35,480	42,233	765	3,357,113	73,358

STATEMENT, BY FISHING GROUNDS, OF QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, CALENDAR YEAR 1921—Continued.

Fishing grounds.	Number of trips.	Pollock.				Cusk.				Halibut.			
		Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
LANDED AT BOSTON.													
East of 66° W. longitude.													
		Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
By American vessels:													
La Have Bank	59	61,565	$1,235			75,905	$1,227			127,547	$20,210		
Western Bank	26	2,810	79			4,190	66	800	$16	457,669	71,043		
Quereau Bank	16					3,275	21			377,521	62,124		
Green Bank	4									170,016	22,479		
Grand Bank	34									1,215,069	135,558		
St. Peters Bank	3									86,633	15,281		
Burgeo Bank	1									34,853	5,051		
Cape Shore	59	57,220	1,064							4,400	739		
Roseway Bank	1	600	18			11,145	221						
By Canadian vessels:													
La Have Bank	2	695	24										
Western Bank	2					200	2			4,693	995		
West of 66° W. longitude.										15,589	2,280		
By American vessels:													
Browns Bank	256	424,562	9,311			252,671	4,104			309,652	56,172		
Georges Bank	706	591,538	14,774			69,725	1,382			842,463	133,964		
Clark Bank	2	2,580	99							684	132		
Fippenies Bank	9	11,750	413			38,385	1,037			1,205	304		
Middle Bank	93	55,880	2,051			94,455	1,954			5,793	1,370		
Jeffreys Ledge	123	515,320	12,940			102,041	2,125			5,498	1,098		
South Channel	740	496,635	12,170			154,232	2,762			116,015	20,588		
Nantucket Shoals	32	6,157	170							1,004	188		
Off Chatham	92	61,418	1,440			24,445	503			11,752	2,866		
Seal Island	1	3,600	54							47	10		
Shore, general	770	392,016	10,327			42,490	608			12,564	2,290		
By Canadian vessels:													
Browns Bank	20	42,635	918			6,895	82			3,353	764		
Georges Bank	22	19,635	413			1,234	17			2,992	827		
South Channel	3	1,600	37							1,456	259		
Total	3,078	2,748,216	67,537			881,288	16,111	800	16	3,808,468	556,592		

LANDED AT GLOUCESTER.													
East of 66° W. longitude.													
By American vessels:													
La Have Bank	26	48,055	362			134,195	1,595						
Western Bank	38	44,480	328	20,890	$405	35,855	388	6,800	141	75,840	8,469	975	$95
Quereau Bank	16	2,815	23	3,490	55	13,435	174	2,505	58			100	8
Green Bank	18	825	6	660	10	105	2	1,595	30	2,040	465		
Grand Bank	60	435	3	9,345	146	5,585	79	15,740	308	211,891	20,954	46,726	6,916
St. Peters Bank	6			820	16							495	42
Cape Shore	30	50,120	483	190	3	19,920	275						
The Gully	15	780	7	342	5	9,645	126	880	21			25	2
By Canadian vessels:													
Western Bank	2	1,910	19							47,479	2,374		
Quereau Bank	1			160	3								
Cape Shore	1					2,560	32						
West of 66° W. longitude.													
Browns Bank	53	68,961	531	690	10	187,810	2,310	150	3	19,730	2,934		
Georges Bank	195	130,025	1,008	5,735	108	112,435	1,340	9,240	186	28,060	4,251		
Middle Bank	1			3,930	29								
South Channel	41	12,965	198			23,240	292						
Shore, general	1,558	3,062,584	80,261			31,410	739						
By Canadian vessels: Georges Bank	3	5,450	109	2,055	41	800	16	640	14				
Total	2,073	3,429,405	83,338	48,307	831	576,995	7,368	37,550	761	385,040	39,447	48,321	7,063
LANDED AT PORTLAND.													
East of 66° W. longitude.													
By American vessels:													
La Have Bank	4	1,110	6			1,640	16			37,723	4,725		
Western Bank	9									147,427	21,031		
Quereau Bank	9									195,357	29,835		
Misaine Bank	1									27,971	5,033		
Green Bank	1									21,163	5,455		
Grand Bank	17					300	6			501,566	54,926		
Burgeo Bank	2									44,176	5,314		
Cape Shore	7							83	4				
The Gully	10	120	1			150	2			272,712	51,435		
By Canadian vessels:													
La Have Bank	1									11,280	1,083		
Western Bank	10	29,565	233							25,055	3,745		
Grand Bank	1									19,315	1,636		

STATEMENT, BY FISHING GROUNDS, OF QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, CALENDAR YEAR 1921—Continued.

Fishing grounds.	Number of trips.	Pollock.				Cusk.				Halibut.			
		Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
LANDED AT PORTLAND—continued.													
West of 66° W. longitude.													
		Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
By Canadian vessels—Continued.													
Browns Bank	1									27,971	$3,145	110	$13
Georges Bank	25									50,850	5,593		
Cashes Bank	3	310	$4			3,185	$46			3,564	659		
Fippenies Bank	4	2,415	53			5,160	134			2,359	351		
Platts Bank	75	64,563	994			137,166	2,691			16,921	2,812		
Jeffreys Ledge	175	202,674	5,105			217,102	4,688			7,225	1,121		
Shore, general	1,690	414,641	6,458	3,685	$82	236,996	5,986			11,454	2,060		
Total	2,055	715,398	12,854	3,685	82	601,699	13,569	83	$4	1,424,089	199,959	110	13
Grand total	7,206	6,893,019	163,729	51,992	913	2,059,982	37,048	38,433	781	5,617,597	795,998	48,431	7,076

Fishing grounds.	Number of trips.	Mackerel.				Miscellaneous.				Total.				Grand total.	
		Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.			
LANDED AT BOSTON.															
East of 66° W. longitude.															
		Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
By American vessels:															
La Have Bank	59					6,938	$1,156			2,303,305	$99,731			2,303,305	$99,731
Western Bank	26					54,690	10,461			1,015,109	101,382	17,155	$604	1,032,264	101,986
Quereau Bank	16									427,581	63,743			427,581	63,743
Green Bank	4									170,016	22,479			170,016	22,479
Grand Bank	34					8,656	1,603			1,251,380	138,127	4,250	185	1,255,630	138,312
St. Peters Bank	3									86,633	15,281			86,633	15,281
Burgeo Bank	1									34,853	5,051			34,853	5,051
Cape Shore	59	1,459,974	$124,065	60,400	$5,244	149,173	29,112			2,255,620	175,773	60,400	5,244	2,316,020	181,017
Gulf of St. Lawrence	1									36,750	1,307			36,750	1,307
Roseway Bank	1									42,800	2,517			42,800	2,517
By Canadian vessels:															
La Have Bank	2									92,778	4,662			92,778	4,662
Western Bank	2									36,139	3,137			36,139	3,137
West of 66° W. longitude.															
By American vessels:															
Browns Bank	256					47,223	1,466			11,174,807	468,691	9,500	333	11,184,307	469,024
Georges Bank	706	12,000	2,865			1,398,553	237,543			32,458,336	1,295,214			32,458,336	1,295,214
Clark Bank	2					40	1			120,344	3,916			120,344	3,916
Fippenies Bank	9					840	40			225,618	10,626			225,618	10,626
Middle Bank	93	2,490	274			20,562	1,787			1,376,037	63,066			1,376,037	63,066
Jeffreys Ledge	123					51,567	1,936			1,740,276	60,301			1,740,276	60,301
South Channel	740					450,881	32,878			40,238,978	1,258,250			40,238,978	1,258,250
Nantucket Shoals	32	107,460	10,329			52,735	1,307			543,541	23,969			543,541	23,969
Off Highland Light	1	6,635	1,041							6,635	1,041			6,635	1,041
Off Chatham	92					17,328	1,106			2,206,715	87,842			2,206,715	87,842
Seal Island	1					70	2			47,842	1,302			47,842	1,302
Shore, general	770	404,727	62,899			2,008,018	72,529			4,664,446	218,772			4,664,446	218,772
By Canadian vessels:															
Browns Bank	20					16,244	174			731,248	20,391			731,248	20,391
Georges Bank	22					46,645	8,836			700,126	27,848			700,126	27,848
South Channel	3					5,360	214			289,411	9,350			289,411	9,350
Total	3,078	1,993,286	201,473	60,400	5,244	4,335,523	402,151			104,277,324	4,183,769	91,305	6,366	104,368,629	4,190,135

STATEMENT, BY FISHING GROUNDS, OF QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS.; AND PORTLAND, ME.; BY AMERICAN AND CANADIAN FISHING VESSELS, CALENDAR YEAR 1921—Continued.

Fishing grounds.	Number of trips.	Mackerel.				Miscellaneous.				Total.				Grand total.	
		Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.			
LANDED AT GLOUCESTER.															
East of 66° W. longitude.															
		Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
By American vessels:															
La Have Bank	26									2,000,418	$30,155	11,060	$417	2,011,478	$30,572
Western Bank	38									1,470,250	31,909	1,180,740	46,602	2,650,990	78,511
Quereau Bank	16									246,896	3,848	224,236	8,881	471,132	12,729
Green Bank	18									67,368	1,881	164,821	6,361	232,189	8,242
Grand Bank	60					2,005	$296			399,024	24,866	2,251,803	94,147	2,650,827	119,013
St. Peters Bank	6									2,865	40	515,470	20,095	518,335	20,135
Sambro Bank	1											10,520	410	10,520	410
Burgeo Bank	1											5,755	225	5,755	225
Off Newfoundland	3											351,400	9,584	551,400	19,584
Cape Shore	30					[1] 200,000	10,000	[1] 351,400	$9,584	200,000	10,000	587,540	39,322	911,953	46,743
Gulf of St. Lawrence	3			580,500	$39,143	11,528	1,730			324,413	7,421	5,600	895	5,600	895
The Gully	15			5,600	895							187,562	7,334	216,452	7,843
By Canadian vessels:															
Western Bank	2									28,890	509			101,794	3,669
Quereau Bank	1											21,710	881	21,710	881
Cape Shore	1									101,794	3,669			20,165	364
West of 66° W. longitude.										20,165	364				
Browns Bank	53														
Georges Bank	195									3,192,725	54,059	43,205	1,323	3,235,930	55,382
Middle Bank	1									8,338,720	145,308	537,200	21,440	8,875,920	166,748
South Channel	41											81,630	3,247	81,630	3,247
South	1	1,830	$128							2,631,100	26,069			2,631,100	26,069
Shore, general	1,558	243,164	36,606			9,174	338			1,830	128			1,830	128
By Canadian vessels:										7,713,391	315,344	525	21	7,713,916	315,365
Georges Bank	3									6,670	133	88,870	3,362	95,540	3,495
Total	2,073	244,994	36,734	586,100	40,038	222,707	12,364	351,400	9,584	26,746,519	655,703	6,269,647	264,547	33,016,166	920,250

LANDED AT PORTLAND.															
East of 66° W. longitude.															
By American vessels:															
La Have Bank	4					365	110			93,998	6,147	3,475	63	97,473	6,210
Western Bank	9					9,871	1,370			157,298	22,401	64,540	3,007	221,838	25,408
Quereau Bank	9					464	93			195,821	29,928	23,190	1,038	219,011	30,966
Misaine Bank	1									27,971	5,033			27,971	5,033
Green Bank	1									21,163	5,455			21,163	5,455
Grand Bank	17					865	160			508,776	55,363	42,803	1,881	551,579	57,244
Burgeo Bank	2									14,176	5,314			44,176	5,314
Cape Shore	7	245,704	20,650	3,000	180	5,111	900			250,815	21,550	3,329	195	254,144	21,745
St Anns Bank	6					48,103	8,422			48,103	8,422			48,103	8,422
The Gully	10									299,157	52,001	63,715	3,032	362,872	55,033
By Canadian vessels:															
La Have Bank	1					1,064	170			14,644	1,270	14,340	717	28,984	1,987
Western Bank	10									1,818,445	40,434	9,020	365	1,827,465	40,799
Grand Bank	1					1,227	258			42,917	2,671			42,917	2,671
St. Anns Bank	1					21,162	2,413			21,162	2,413			21,162	2,413
West of 66° W. longitude.															
Browns Bank	1							600	33	27,971	3,145	710	46	28,681	3,191
Georges Bank	25					131,758	27,297			182,608	32,890	9,180	409	191,788	33,299
Cashes Bank	3									20,764	974			20,764	974
Fippenies Bank	4									46,244	2,015			46,244	2,015
Platts Bank	75					2,115	51			825,719	26,077			825,719	26,077
Jeffreys Ledge	175					22,964	849			1,940,299	71,193			1,940,299	71,193
Shore, general	1,690	250,696	31,307			2,136,262	26,263			6,433,685	200,473	11,393	440	6,445,078	200,913
By Canadian vessels:															
Georges Bank	2					16,080	2,430			16,080	2,430			16,080	2,430
South Channel	1									196,800	3,452			196,800	3,452
Total	2,055	496,400	51,957	3,000	180	2,397,411	70,786	600	33	13,234,616	601,051	245,695	11,193	13,480,311	612,244
Grand total	7,206	2,734,680	290,164	649,500	45,462	6,955,641	485,301	352,000	9,617	144,258,459	5,440,523	6,606,647	282,106	150,865,106	5,722,629

[1] Herring. Other items under "Miscellaneous" include bluebacks, 37,100 pounds, value $363; butterfish, 56,149 pounds, value $5,660; flounders, 2,604,657 pounds, value $111,956, herring, 2,062,140 pounds, value $20,823; rosefish, 27,654 pounds, value $681; salmon, 8 pounds, value $1; shad, 49,490 pounds, value $3,415; sharks, 13,508 pounds, value $263; skates; 7,070 pounds, value $170; smelt, 10,018 pounds, value $1,042; sturgeon, 865 pounds, value $142; swordfish, 1,597,645 pounds, value $318,406; tuna, 1,192 pounds, value $47; tautog, 70 pounds, value $4; wolffish, 126,943 pounds, value $3,954; squid, 212 pounds, value $4; lobster, 114 pounds, value $33; livers, 51,651 pounds, value $577; spawn, 109,155 pounds, value, $7,760; and tongues, salted, 600 pounds, value $33.

STATEMENT, BY MONTHS, OF QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, 1921.

[NOTE.—The statistics for 1921 include 72 trips landed by Canadian fishing vessels, 49 at Boston, 7 at Gloucester, and 16 at Portland, amounting to 4,222,319 pounds of fish, value $127,549.]

Months.	Number of trips.	Cod.											
		Large (10 pounds and over).				Market (under 10 and over 2½ pounds).				Scrod (1 to 2½ pounds).			
		Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
LANDED AT BOSTON.		*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
January	242	1,292,211	$85,525	.....	.....	840,551	$26,323	.....	.....	31,405	$460	.....	.....
February	253	4,072,065	119,826	.....	.....	824,528	21,043	.....	.....	21,125	207	.....	.....
March	247	3,124,647	98,489	.....	.....	765,489	20,687	.....	.....	18,280	145	.....	.....
April	239	1,552,111	54,772	.....	.....	958,531	24,691	.....	.....	35,035	323	.....	.....
May	257	1,468,079	63,843	.....	.....	1,337,489	31,419	.....	.....	49,275	391	.....	.....
June	264	1,578,682	55,339	.....	.....	1,639,961	26,339	.....	.....	23,270	159	.....	.....
July	283	1,214,334	53,594	.....	.....	1,143,907	28,564	.....	.....	38,295	323	.....	.....
August	321	1,597,402	67,154	3,850	$173	1,357,908	31,479	400	$12	42,675	300	.....	.....
September	245	1,078,292	59,354	9,760	390	1,075,365	31,802	6,595	198	73,700	667	.....	.....
October	276	1,219,918	75,081	9,500	333	1,003,302	33,634	.....	.....	90,060	832	.....	.....
November	251	722,297	42,478	.....	.....	666,434	18,098	.....	.....	91,750	711	.....	.....
December	200	519,758	40,449	.....	.....	642,539	22,293	.....	.....	98,245	1,103	.....	.....
Total	3,078	19,439,796	815,904	23,110	896	12,256,004	316,372	6,995	210	613,115	5,621	.....	.....
LANDED AT GLOUCESTER.													
January	122	214,045	6,017	7,625	419	265,030	5,467	1,050	53	8,110	88	.....	.....
February	180	484,770	11,756	14,880	819	27,685	534	3,310	149	100	1	.....	.....
March	371	2,230,370	55,178	84,055	3,119	203,885	3,600	11,214	398	2,210	25	.....	.....
April	274	781,680	15,435	141,583	5,663	197,848	2,888	25,455	891	3,815	44	340	$10
May	60	278,076	6,213	143,102	5,638	87,263	1,293	25,613	904	4,815	48	1,205	24
June	80	492,799	9,882	573,506	23,599	545,289	8,308	210,145	7,300	5,035	41	14,405	293
July	63	727,883	16,006	562,320	24,014	939,580	14,398	273,305	10,835	7,030	55	17,430	413
August	74	783,800	17,420	341,242	14,247	850,751	14,241	54,595	1,987	14,175	116	2,540	78
September	65	571,692	12,245	1,040,523	44,673	552,320	8,716	605,245	23,904	10,960	90	40,705	961
October	221	761,248	25,210	448,176	17,971	317,545	4,646	358,055	12,111	12,445	91	29,650	635
November	347	380,028	9,329	72,570	2,926	204,845	3,280	18,797	658	5,685	47	740	18
December	216	70,988	3,403	9,410	400	38,795	631	7,665	216	680	5	250	3
Total	2,073	7,777,379	188,094	3,438,992	143,488	4,230,836	68,002	1,594,449	59,406	75,060	651	107,265	2,435

LANDED AT PORTLAND.													
January	99	91,220	5,056			108,379	2,769			72,724	510		
February	128	71,869	2,849			72,756	1,866			33,403	191		
March	178	113,765	5,101			69,720	2,263			22,498	148		
April	262	183,655	5,487	33,000	1,725	90,607	2,010			38,456	212		
May	239	535,106	15,178	70,705	3,383	81,134	1,661	3,435	52	28,402	160	210	4
June	296	456,451	12,980	78,483	3,459	245,332	4,736	19,206	685	6,706	35		
July	175	258,508	11,056	20,162	1,007	33,235	752			2,703	17		
August	164	237,997	9,863	105	5	14,281	392	110	4	6,615	49	245	5
September	143	83,442	4,334	11,180	503	16,742	532	500	20	8,491	45		
October	196	140,228	8,792	296	15	89,143	2,513	100	4	37,451	222	220	4
November	91	55,079	3,291			60,443	1,660			27,183	165		
December	84	117,879	8,129			132,623	3,419			69,830	370		
Total	2,055	2,345,199	92,116	213,931	10,097	1,014,395	24,573	23,351	765	354,462	2,124	675	13
Grand total	7,206	29,562,374	1,096,114	3,676,033	154,481	17,501,235	408,947	1,624,795	60,381	1,042,637	8,396	107,940	2,448
Grounds east of 66° W. long	508	3,269,723	98,482	3,092,232	130,112	2,340,832	45,040	1,474,473	54,969	55,780	517	99,855	2,281
Grounds west of 66° W. long	6,698	26,292,651	997,632	583,801	24,369	15,160,403	363,907	150,322	5,412	986,857	7,879	8,085	167
Landed at Boston in 1920	3,342	19,004,092	1,177,813			12,007,699	423,265			268,715	4,395		
Landed at Gloucester in 1920	2,381	14,086,065	452,203	1,739,372	98,381	10,409,452	251,643	1,812,117	92,430	133,874	1,692	104,932	4,004
Landed at Portland in 1920	1,883	1,756,850	95,859	76,218	4,487	584,731	22,072	100,311	5,532	155,689	2,478	25,465	1,383

STATEMENT, BY MONTHS, OF QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, 1921—Continued.

Months.	Number of trips.	Haddock.						Hake.							
		Large (over 2½ pounds).				Scrod (1 to 2½ pounds).		Large (6 pounds and over).				Small (under 6 pounds).			
		Fresh.		Salted.		Fresh.		Fresh.		Salted.		Fresh.		Salted.	
		Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
LANDED AT BOSTON.															
January	242	6,538,743	$243,569					25,440	$2,378			153,269	$8,134		
February	253	6,604,744	177,115					23,475	1,803			43,685	2,266		
March	247	3,938,065	152,725					36,735	1,938			74,785	2,422		
April	239	2,702,348	152,288					49,290	1,748			82,860	2,108		
May	257	4,271,976	131,982					27,825	603			48,700	1,071		
June	264	4,313,438	77,336			100	$1	37,900	733			104,775	1,771		
July	283	3,725,489	78,305			250	3	118,314	2,327			129,730	2,796		
August	321	4,800,603	71,889					72,950	1,362			225,470	3,574		
September	245	4,418,200	106,123					15,590	315			241,785	5,692		
October	276	5,557,340	151,102			1,050	19	5,715	143			622,759	11,065		
November	251	4,096,685	157,191			18,700	374	52,505	1,521			470,376	6,079		
December	200	4,252,945	231,323			1,050	11	19,425	1,183			276,544	7,620		
Total	3,078	55,220,576	1,730,948			21,150	408	485,164	16,054			2,474,738	54,598		
LANDED AT GLOUCESTER.															
January	122	175,035	3,416					52,015	3,527						
February	180	473,570	16,667					57,985	5,371						
March	371	1,623,305	71,274					31,905	1,851	790	$14				
April	274	716,370	44,812					14,558	568	215	4				
May	60	429,050	3,903					5,005	96	205	4				
June	80	975,610	7,888	1,415	$28			27,365	342	3,455	69				
July	63	1,363,495	13,571					48,310	483	9,195	173				
August	74	1,506,765	14,868	10,925	110			22,250	223	8,355	151				
September	65	1,214,384	16,721					21,400	219	11,690	222				
October	221	618,810	4,633					143,055	2,461	4,245	67				
November	347	91,150	2,487	2,950	44			152,656	1,810	2,743	41				
December	216	24,695	1,658					15,360	856	1,080	14				
Total	2,073	9,212,239	201,898	15,290	182			591,864	17,807	41,973	759				

LANDED AT PORTLAND.															
January	99	215,421	12,918	.....	.....	798	21	2,555	172	.....	.....	43,856	1,558	.....	.....
February	128	302,859	14,949	.....	.....	2,161	34	3,667	220	.....	.....	92,951	3,672	.....	.....
March	178	213,431	12,913	.....	.....	883	14	1,443	79	.....	.....	73,591	2,419	.....	.....
April	262	896,661	29,467	.....	.....	1,243	17	708	26	.....	.....	105,360	2,295	.....	.....
May	239	553,070	14,947	.....	.....	360	4	19,580	413	.....	.....	111,114	1,673	.....	.....
June	296	466,894	9,162	.....	.....	.....	.....	325	7	60	3	42,184	443	.....	.....
July	175	2,541	152	.....	.....	.....	.....	881	26	.....	.....	17,212	279	.....	.....
August	164	34,844	1,583	.....	.....	590	7	750	10	.....	.....	27,321	400	.....	.....
September	143	21,779	1,210	.....	.....	365	2	1,605	34	200	3	27,233	551	.....	.....
October	196	38,885	2,440	.....	.....	883	9	14,905	362	.....	.....	142,775	1,937	.....	.....
November	91	62,263	4,032	.....	.....	310	5	12,125	238	.....	.....	103,294	1,638	.....	.....
December	84	125,394	8,834	.....	.....	1,819	14	1,190	32	.....	.....	95,484	1,805	.....	.....
Total	2,055	2,934,042	112,607	.....	.....	9,412	127	59,734	1,619	260	6	882,375	18,760	.....	.....
Grand total	7,206	67,366,857	2,045,453	15,290	182	30,562	535	1,136,762	35,480	42,233	765	3,357,113	73,358	.....	.....
Grounds east of 66° W. long	508	3,376,905	87,047	3,015	45	300	6	90,318	1,059	41,338	748	42,540	771	.....	.....
Grounds west of 66° W. long	6,698	63,989,952	1,958,406	12,275	137	30,262	529	1,046,444	34,421	895	17	3,314,573	72,587	.....	.....
Landed at Boston in 1920	3,342	64,720,438	2,476,056	.....	.....	31,450	772	814,450	31,575	.....	.....	1,934,954	65,575	.....	.....
Landed at Gloucester in 1920	2,381	8,372,231	176,091	28,300	854	193,162	2,384	750,240	22,909	51,182	1,321	.....	.....	455	$9
Landed at Portland in 1920	1,883	1,890,946	82,638	16,143	484	26,807	773	118,612	4,652	1,940	49	1,047,866	27,731	1,657	55

STATEMENT, BY MONTHS, OF QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, 1921—Continued.

Months.	Number of trips.	Pollock.				Cusk.				Halibut.			
		Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
LANDED AT BOSTON.		*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
January	242	157,792	$6,372			131,650	$2,909			44,641	$14,147		
February	253	64,366	3,262			52,181	1,435			145,527	32,367		
March	247	64,130	3,068			121,815	2,397			290,810	59,866		
April	239	132,683	3,681			110,442	1,707			391,181	68,666		
May	257	145,090	3,669			48,240	854			251,196	45,281		
June	264	308,755	5,588			33,779	484			428,740	53,728		
July	283	247,347	7,537			34,894	582			517,860	58,778		
August	321	378,919	7,413			29,980	615			575,747	61,881		
September	245	435,042	9,754			35,460	685	800	$16	488,536	56,662		
October	276	454,942	10,331			76,507	1,172			599,728	86,747		
November	251	175,660	3,111			80,840	1,251			25,372	6,065		
December	200	183,490	3,751			125,500	2,020			49,130	12,404		
Total	3,078	2,748,216	67,537			881,288	16,111	800	16	3,808,468	556,592		
LANDED AT GLOUCESTER.													
January	122	245,390	11,759			51,260	710						
February	180	237,365	16,038	110	$3	9,565	199	400	12	12,620	1,674		
March	371	31,155	1,540	587	12	27,090	588	490	13				
April	274	33,066	978	155	3	55,295	705	120	3				
May	60	6,420	91	185	4	5,950	75	1,315	36				
June	80	59,840	552	5,330	106	37,365	486	4,700	109	47,479	2,374	5,755	$841
July	63	51,475	448	19,395	384	178,570	2,241	10,445	196	73,382	7,435	975	95
August	74	58,270	535	2,115	36	91,310	1,173	8,560	172	155,009	14,896	36,256	5,570
September	65	95,300	715	13,050	167	60,640	609	7,335	140	41,113	5,979	25	2
October	221	38,460	288	4,070	66	29,650	302	3,820	73	46,287	5,364	5,015	527
November	347	1,401,544	21,911	3,120	47	26,630	247	365	7	9,150	1,725	195	20
December	216	1,171,120	28,483	190	3	3,670	33					100	8
Total	2,073	3,429,405	83,338	48,307	831	576,995	7,368	37,550	761	385,040	39,447	48,321	7,063
LANDED AT PORTLAND.													
January	99	29,023	1,023			56,608	1,864			1,995	422		
February	128	71,008	3,383			106,447	2,309			50,420	11,169		
March	178	19,736	952			65,690	1,957			127,578	25,946		

April	262	77,698	1,062	.....	.....	83,687	1,740	.....	.....	122,465	22,659	.....	.....
May	239	110,403	1,182	.....	.....	51,138	835	.....	.....	90,999	17,116	.....	.....
June	296	46,732	365	.....	.....	17,401	322	83	4	265,565	33,013	.....	.....
July	175	37,188	713	3,500	78	9,612	285	.....	.....	133,116	14,712	.....	.....
August	164	46,910	491	100	2	6,309	209	.....	.....	285,371	31,038	110	13
September	143	47,996	715	.....	.....	13,020	470	.....	.....	210,604	23,368	.....	.....
October	196	109,034	1,279	85	2	95,830	1,500	.....	.....	119,229	18,072	.....	.....
November	91	57,170	677	.....	.....	44,606	816	.....	.....	2,175	337	.....	.....
December	84	62,500	1,012	.....	.....	51,351	1,262	.....	.....	14,572	2,107	.....	.....
Total	2,055	715,398	12,854	3,685	82	601,699	13,569	83	4	1,424,089	199,959	110	13
Grand total	7,206	6,893,019	163,729	51,992	913	2,059,982	37,048	38,433	781	5,617,597	795,998	48,431	7,076
Grounds east of 66° W. long	508	303,105	3,891	35,897	643	318,105	4,232	28,403	578	4,134,985	552,240	48,321	7,063
Grounds west of 66° W. long	6,698	6,589,914	159,838	16,095	270	1,741,877	32,816	10,030	203	1,482,612	243,758	110	13
Landed at Boston in 1920	3,342	3,337,074	122,421	.....	.....	745,627	21,110	.....	.....	2,500,532	496,615	12,000	1,150
Landed at Gloucester in 1920	2,381	4,183,785	118,592	16,780	480	598,230	11,271	5,353	230	107,089	19,598	9,736	1,235
Landed at Portland in 1920	1,883	1,018,007	20,472	5,255	163	505,269	15,451	260	8	1,159,973	223,223	.....	.....

STATEMENT, BY MONTHS, OF QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, 1921—Continued.

Months.	Number of trips.	Mackerel.				Miscellaneous.[1]				Total.				Grand total.	
		Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.			
		Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
LANDED AT BOSTON.															
January	242					415,023	$22,705			9,630,725	$412,522			9,630,725	$412,522
February	253					455,836	18,468			12,307,532	377,792			12,307,532	377,792
March	247					419,115	13,106			8,853,871	354,843			8,853,871	354,843
April	239					218,769	5,777			6,233,250	315,761			6,233,250	315,761
May	257	185,300	$18,551			151,779	3,844			7,984,949	301,508			7,984,949	301,508
June	264	1,386,520	116,109	60,400	$5,244	88,491	4,107			9,944,411	341,694	60,400	$5,244	10,004,811	346,938
July	283	42,721	7,938			575,526	112,820			7,788,667	353,567			7,788,667	353,567
August	321	12,710	2,950			726,481	112,735			9,820,845	361,352	4,250	185	9,825,095	361,537
September	245	2,490	274			496,025	65,412			8,360,485	336,740	17,155	604	8,377,640	337,344
October	276	14,850	2,769			316,668	15,596			9,962,339	388,491	9,500	333	9,972,339	388,824
November	251	343,700	51,733			240,305	12,675			6,984,624	301,287			6,984,624	301,287
December	200	4,995	1,149			231,505	14,906			6,405,126	338,212			6,405,126	338,212
Total	3,078	1,993,286	201,473	60,400	5,244	4,335,523	402,151			104,277,324	4,183,769	91,305	6,366	104,368,629	4,190,135
LANDED AT GLOUCESTER.															
January	122					200,000	10,000			1,223,505	42,658	8,675	472	1,232,180	43,130
February	180					3,000	240			1,294,040	50,806	18,700	983	1,312,740	51,789
March	371									4,149,920	134,056	97,136	3,556	4,247,056	137,612
April	274									1,802,632	65,430	167,868	6,574	1,970,500	72,004
May	60									816,579	11,719	177,380	7,451	993,959	19,170
June	80	1,830	128	566,300	36,511					2,192,612	30,001	1,380,231	68,110	3,572,843	98,111
July	63					5,200	78			3,394,925	54,715	928,346	41,585	4,323,271	96,300
August	74					11,528	1,730			3,493,858	65,202	428,357	16,783	3,922,215	81,985
September	65					2,005	296			2,569,814	45,590	1,725,563	70,794	4,295,377	116,384
October	221	29,947	6,056	2,000	200	625	12			1,998,072	49,063	860,611	33,237	2,858,683	82,300
November	347	212,588	30,422	12,400	2,294	349	8			2,484,625	71,266	106,785	4,782	2,591,410	76,048
December	216	629	128	5,400	1,033					1,325,937	35,197	369,995	10,220	1,695,932	45,417
Total	2,073	244,994	36,734	586,100	40,038	222,707	12,364	351,400	9,584	26,746,519	655,703	6,269,647	264,547	33,016,166	920,250
LANDED AT PORTLAND.															
January	99					6,522	265			629,101	26,578			629,101	26,578
February	128					19,261	620			826,802	41,262			826,802	41,262
March	178					17,318	228			725,653	52,190			725,653	52,190
April	262					7,381	148			1,607,921	65,123	33,000	1,725	1,640,921	66,848

May	239					643,916	4,887			2,225,222	58,056	74,350	3,439	2,299,572	61,495
June	296	257,657	22,224	3,000	180	1,292,515	15,629			3,097,762	98,916	100,832	4,331	3,198,594	103,247
July	175	132,864	14,237			172,164	18,770			800,024	60,999	23,662	1,085	823,686	62,084
August	164	4,580	669			135,022	16,160	600	33	800,590	60,871	1,270	62	801,860	60,933
September	143	15,659	2,693			87,409	12,824			534,345	46,778	11,880	526	546,225	47,304
October	196	60,480	8,418			11,691	730			860,534	46,274	701	25	861,235	46,299
November	91	25,160	3,716			3,856	333			453,664	16,908			453,664	16,908
December	84					356	22			672,998	27,096			672,998	27,096
Total	2,055	496,400	51,957	3,000	180	2,397,411	70,786	600	33	13,234,616	601,051	245,695	11,193	13,480,311	612,244
Grand total	7,206	2,734,680	290,164	649,500	45,462	6,955,641	485,301	352,000	9,617	144,258,459	5,440,523	6,606,647	282,106	150,865,106	5,722,629
Grounds east of 66° W. long	508	1,705,678	144,715	649,500	45,462	521,222	68,254	351,400	9,584	16,159,493	1,006,254	5,824,434	251,485	21,983,927	1,257,739
Grounds west of 66° W. long	6,698	1,029,002	145,449			6,434,419	417,047	600	33	128,098,966	4,434,269	782,213	30,621	128,881,179	4,464,890
Landed at Boston in 1920	3,342	6,008,920	639,544	245,100	20,951	6,927,851	655,327			118,301,802	6,114,468	257,100	22,101	118,558,902	6,136,569
Landed at Gloucester in 1920	2,381	150,285	17,529	762,092	70,658	128,540	6,665	3,097,024	110,157	39,112,953	1,080,577	7,627,343	379,759	46,740,296	1,460,336
Landed at Portland in 1920	1,883	125,324	14,237	2,000	175	4,362,180	108,186			12,752,254	617,772	229,249	12,336	12,981,503	630,108

[1] Includes herring from Newfoundland, 200,000 pounds frozen, value $10,000, and 351,400 pounds salted, value $9,584.

The fishery products landed at Boston and Gloucester, Mass., and Portland, Me., by fishing vessels each year are taken principally from fishing grounds off the coast of the United States. In the calendar year 1921, 85.39 per cent of the quantity and 77.99 per cent of the value of the catch landed by American and Canadian fishing vessels were from these grounds; 4.08 per cent of the quantity and 7.32 per cent of the value, consisting chiefly of cod, halibut, and herring, were from fishing banks off the coast of Newfoundland; and 10.51 per cent of the quantity and 14.67 per cent of the value from fishing grounds off the Canadian Provinces. There was a considerable falling off in the percentage of products from grounds off the Canadian Provinces, but an increase in those from grounds off the United States and Newfoundland. Newfoundland herring constituted less than one-half of 1 per cent of the quantity and value of the fishery products landed at these ports during the year. The herring were taken from the treaty coast of Newfoundland, and the cod, haddock, hake, halibut, and other species from that region were obtained from fishing banks on the high seas. All fish caught by American fishing vessels off the coast of the Canadian Provinces were from offshore fishing grounds. The catch from each of these regions is given in detail in the following table:

QUANTITY AND VALUE OF FISH LANDED BY AMERICAN AND CANADIAN FISHING VESSELS AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., IN 1921, FROM FISHING GROUNDS OFF THE COAST OF THE UNITED STATES, NEWFOUNDLAND, AND CANADIAN PROVINCES.

Species.	United States.		Newfoundland.		Canadian Provinces.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Cod:								
Fresh	42,396,111	$1,368,185	260,366	$6,475	5,449,769	$138,797	48,106,246	$1,513,457
Salted	742,208	29,948	2,877,308	114,839	1,789,252	72,523	5,408,768	217,310
Haddock:								
Fresh	64,019,889	1,958,932	.....	.....	3,377,530	87,056	67,397,419	2,045,988
Salted	12,275	137	65	1	2,950	44	15,290	182
Hake:								
Fresh	4,361,017	107,008	42,080	521	90,778	1,309	4,493,875	108,838
Salted	895	17	32,148	586	9,190	162	42,233	765
Pollock:								
Fresh	6,586,314	159,784	1,260	9	305,445	3,936	6,893,019	163,729
Salted	16,095	270	10,825	172	25,072	471	51,992	913
Cusk:								
Fresh	1,741,877	32,816	5,990	87	312,115	4,145	2,059,982	37,048
Salted	10,030	203	17,335	338	11,068	240	38,433	781
Halibut:								
Fresh	1,482,565	243,748	2,306,722	267,119	1,828,310	285,131	5,617,597	795,998
Salted	110	13	47,221	6,958	1,100	105	48,431	7,076
Mackerel:								
Fresh	1,029,002	145,449	.....	.....	1,705,678	144,715	2,734,680	290,164
Salted	.....	.....	.....	.....	649,500	45,462	649,500	45,462
Herring:								
Fresh	2,062,140	20,823	200,000	10,000	.....	.....	2,262,140	30,823
Salted	.....	.....	351,400	9,584	.....	.....	351,400	9,584
Swordfish: Fresh	1,282,556	260,365	12,753	2,317	302,336	55,724	1,597,645	318,406
Miscellaneous:								
Fresh	3,089,653	135,857	.....	.....	6,203	215	3,095,856	136,072
Salted	600	33	.....	.....	.....	.....	600	33
Total	128,833,337	4,463,588	6,165,473	419,006	15,866,296	840,035	150,865,106	5,722,629

SPECIES.

COD.

In 1921 there was a decrease of 73 vessels in the fishing fleet landing fish at Boston, Gloucester, and Portland as compared with the previous year. There were 23 vessels in the salt-bank fishery, or 3 more

han in the previous year, and 98 in the market fishery, or 13 less than n the previous year. These vessels landed their fares of cod and other ground fish at these ports during the year, and large quantities were also landed by vessels fishing on the shore grounds. The catch of cod landed at these ports during the year was 53,515,014 pounds, valued at $1,730,767, of which 48,106,246 pounds, valued at $1,513,457, were fresh, and 5,408,768 pounds, valued at $217,310, were salted. Cod ranked second in both quantity and value among the various species landed.

HADDOCK.

The catch of haddock for the year ranked first in both quantity and value, exceeding that of cod by 13,897,695 pounds and $315,403. The quantity of haddock landed at these ports by fishing vessels during the year amounted to 67,412,709 pounds, valued at $2,046,170, all of which was fresh except 15,290 pounds salted, valued at $182. These fish were taken chiefly on Browns Bank, Georges Bank, South Channel, off Chatham, and shore grounds, and the greater part of the catch, or 55,241,726 pounds, valued at $1,731,356, was landed at Boston.

HAKE.

The catch of hake amounted to 4,536,108 pounds, valued at $109,603, all landed fresh except 42,233 pounds salted, valued at 765. More than half of the catch was landed at Boston. The yield of this species has been comparatively small in recent years.

POLLOCK.

The catch of pollock amounted to 6,945,011 pounds, valued at $164,642, all landed fresh except 51,992 pounds, valued at $913, salted. The greater part of the catch of this species was taken from Browns Bank, Georges Bank, Jeffreys Ledge, South Channel, and shore grounds, and about one-half of the product was landed at Gloucester.

CUSK.

The catch of cusk was 2,098,415 pounds, valued at $37,829, all landed fresh except 38,433 pounds, valued at $781, salted. There was an increase in the catch of cusk of 243,676 pounds in quantity but a decrease of $10,241 in value as compared with the previous year.

HALIBUT.

The catch of halibut was 5,666,028 pounds, valued at $803,074, all landed fresh except 48,431 pounds salted, valued at $7,076. There was an increase of 1,876,698 pounds in quantity and of $51,253 in value as compared with the previous year. The catch was the largest taken in the past six years. The quantity landed at Boston was 3,808,468 pounds, valued at $556,592; at Gloucester, 33,361 pounds, valued at $46,510; and at Portland, 1,424,199 pounds, valued at $199,972.

MACKEREL.

The total catch of fresh mackerel taken by the American fishing fleet in 1921 was 40,323 barrels, compared with 79,799 barrels in

1920, a decrease of 39,476 barrels. The total catch of salted mack erel was 3,242 barrels, compared with 4,897 barrels the previou year, a decrease of 1,655 barrels. The quantity of mackerel lande at Boston, Gloucester, and Portland by the fishing fleet during th year was 3,384,180 pounds, valued at $335,626, of which 2,734,68 pounds, valued at $290,164, were fresh and 649,500 pounds, value at $45,462 were salted. These were all landed by American fishin vessels. There was a decrease in the total catch of mackerel lande at these ports of 3,909,541 pounds in quantity and of $427,468 i value, as compared with the previous year.

In 1921 the total catch of mackerel up to July 1 was 33,632 barrel fresh and 3,143 barrels salted, compared with 60,842 barrels fres and 3,357 salted the previous year. In the southern mackerel fisher the purse-seine vessels had a poor season and the gill-net vessels ha only fair success. The fleet numbered about 35 seiners and 12 netters. The first vessels sailed on March 30, which was about a week earlier than in the previous year. The weather was unfavor able for fishing most of the time. The seiners reported seeing mor fish in the South than for many years. The first vessel arrived a New York April 7 with 6,000 pounds of fresh mackerel weighin from 1 to 3 pounds each, which sold at 50 cents per pound. These fis were caught in latitude 37.50 in 32 fathoms of water. A large flee of netters arrived at New York May 23 with about 300,000 pound of fresh mackerel, which was one of the largest day's receipts at tha port in recent years. The weather was good on the Cape Shore, an this fishery was comparatively successful, three vessels making secon trips. The fish were caught mostly at night and in small schools. Th first arrivals from Cape Shore were on May 31, one vessel having 50,000 pounds and another 75,000 pounds, which sold at 10 cent per pound. The Cape Shore fleet consisted of 27 vessels, whic landed 2,160,100 pounds of fresh mackerel and 3,143 barrels of salte mackerel, compared with 30 vessels and 1,290,000 pounds of fres mackerel and 3,217 barrels of salted mackerel the previous year The fish averaged large; the fresh sold from 6.6 to 16 cents pe pound and the salted from $12 to $13.50 per barrel.

SWORDFISH.

The catch of swordfish amounted to 1,597,645 pounds, valued a $318,406. The number of vessels engaged in this fishery was 66, o 4 more than in the previous year, but there was a decrease in th catch of over 36.89 per cent in quantity and 35.57 per cent in value

FLOUNDERS.

The catch of flounders in the vessel fishery amounted to 2,604,65 pounds, valued at $111,956, a decrease of 1,033,117 pounds, or 28.3 per cent, in quantity and of $54,939, or 32.91 per cent, in value. Th catch taken by boats under 5 tons net tonnage is not included i these statistics.

HERRING.

The catch of herring amounted to 2,613,540 pounds, valued a $40,407. Of this quantity, 2,062,140 pounds, valued at $20,823 were taken off the coast of the United States and landed fresh; and

the remainder, including 200,000 pounds, fresh, frozen, valued at $10,000, and 351,400 pounds, salted, valued at $9,584, were Newfoundland herring.

OTTER-TRAWL FISHERY.

The use of the otter trawl in the New England vessel fisheries began with one steamer at Boston in 1905 and has gradually grown to a fishery of considerable importance. In 1912 there were six specially constructed steamers owned and operated by a company at Boston engaged in this fishery. An otter trawler from New York also landed fish at Boston for several months that year. The catch landed at Boston by these vessels in 1912 amounted to 15,025,150 pounds of fish, of which it is estimated that nearly 14,000,000 pounds were haddock. The otter trawlers landed part of their catch of haddock at Portland, Me., for canning purposes. The fishing was confined chiefly to Georges Bank and South Channel. Several trips were also made to Western Bank.

In 1913 three new steamers were added to the fleet, increasing the number to nine, with one additional vessel from New York occasionally landing at Boston. The number of trips made was 326 and the quantity of fish landed at Boston was 14,366,283 pounds, taken chiefly on Georges Bank and in South Channel. During the spring months a number of trips were taken on Western Bank and part of the catch was landed at Portland, Me.

In 1914 the fishery was conducted on the same grounds as in the previous year. The fleet consisted of nine vessels, in addition to which two vessels from New York operated from Boston part of the year. During the year several vessels began to land their fares regularly at Portland. The number of trips made by otter trawlers was 376, of which 64 were from Georges Bank, 272 from South Channel, and 40 from Western Bank. The quantity of fish landed at Boston by this fleet was 16,921,295 pounds, of which 14,832,950 pounds were haddock. The quantity of fish landed at Portland was 5,830,603 pounds, a large part of which was taken on Western Bank during the spring months.

In 1915 this fishery was carried on by 12 steamers as in the previous year. There were 380 trips landed, of which 105 were from Georges Bank, 248 from South Channel, 26 from Western Bank, and 1 trip from Browns Bank. Western Bank was resorted to in March, April, and May, when haddock were less plentiful on Georges Bank and in South Channel than during the winter months. The year's catch taken by these vessels amounted to 21,116,300 pounds of fish, of which 17,062,732 pounds were haddock. Of the total catch of haddock 39.38 per cent were scrod. With the exception of several trips landed at Portland and an occasional trip at Gloucester, when there was a glut of fresh haddock in the market, the fish caught by otter trawlers were landed at Boston.

In the years immediately following, especially during the war period, there was considerable increase in the number of otter-trawl vessels and also in the number of firms engaging in the otter-trawl fishery. The reciprocal arrangement with Canada, permitting Canadian vessels to land their fares at American ports direct from the fishing grounds, also added a few otter-trawl vessels to the fleet landing fish at Boston, Gloucester, and Portland. In 1919 the otter-

trawl fleet included 25 American and 2 Canadian vessels; in 1920 41 American and 3 Canadian vessels; and in 1921, 23 American and 3 Canadian vessels. In 1920 otter trawlers landed 646 trips of cod and haddock. The catch of cod was 6,311,389 pounds, valued at $315,434, and of haddock, 51,962,457 pounds, valued at $1,882,748. The haddock taken by otter trawlers amounted to 32.68 per cent of the quantity and 26.71 per cent of the value of the total catch of this species landed by fishing vessels.

In 1921 there were 346 trips landed at Boston, Gloucester, and Portland by otter-trawl vessels, amounting to 30,506,057 pounds of fish, valued at $903,878, which was 20.22 per cent of the quantity and 15.99 per cent of the value of the total catch landed by fishing vessels at these ports. The catch included cod, 2,482,833 pounds, valued at $81,258; haddock, 26,734,893 pounds, valued at $750,312; hake, 241,650 pounds, valued at $4,798; pollock, 255,500 pounds, valued at $7,014; cusk, 892 pounds, valued at $19; halibut, 64,038 pounds, valued at $11,579; and other species, 726,251 pounds, valued at $48,898. The catch by otter trawls consists principally of haddock, which in 1921 amounted to 39.65 per cent of the quantity and 36.60 per cent of the value of the entire catch of this species landed. The greater part of the catch in both years was taken from Georges Bank and South Channel.

The following tables give, by fishing grounds and by months, the catch of cod and haddock landed by otter trawlers at these ports in 1920, the catch of cod, haddock, and other species landed by them in 1921, and the catch of cod, haddock, and hake for various years:

COD AND HADDOCK LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY OTTER TRAWLERS IN 1920.

	Number of trips.	Cod.		Haddock.		Total.	
BY FISHING GROUNDS.							
East of 66° W. longitude.		*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
La Have Bank	1	.....	.....	10,000	$250	10,000	$250
Western Bank	25	961,265	$33,471	1,997,255	63,736	2,958,520	97,207
Quereau Bank	1	79,415	2,099	19,125	387	98,540	2,486
West of 66° W. longitude.							
Georges Bank	208	2,450,403	153,156	15,972,435	652,834	18,422,838	805,990
South Channel	396	2,775,986	124,980	32,758,942	1,121,445	35,534,928	1,246,425
Nantucket Shoals	15	44,320	1,728	1,204,700	44,096	1,249,020	45,824
Total	646	6,311,389	315,434	51,962,457	1,882,748	58,273,846	2,198,182
BY MONTHS.							
January	70	541,858	43,412	4,507,060	245,160	5,048,918	288,572
February	58	869,780	63,204	4,754,060	233,952	5,623,840	297,156
March	90	1,047,335	54,353	6,495,320	211,508	7,542,655	265,861
April	58	787,570	31,084	3,796,791	129,651	4,584,361	160,735
May	57	770,280	24,974	5,147,055	166,509	5,917,335	191,483
June	59	837,304	27,690	4,722,810	145,777	5,560,114	173,467
July	45	372,941	16,777	3,199,505	96,956	3,572,446	113,733
August	49	302,797	10,316	4,370,013	104,923	4,672,810	115,239
September	44	182,470	7,445	4,466,233	100,279	4,648,703	107,724
October	32	197,320	10,858	3,823,530	96,753	4,020,850	107,611
November	36	204,569	13,053	3,286,575	168,926	3,491,144	181,979
December	48	197,165	12,268	3,393,505	182,354	3,590,670	194,622
Total	646	6,311,389	315,434	51,962,457	1,882,748	58,273,846	2,198,182

Fishery Products Landed at Boston and Gloucester, Mass., and Portland, Me., by Otter Trawlers in 1921.

	Number of trips.	Cod.		Haddock.		Hake.		Pollock.	
BY FISHING GROUNDS.									
East of 66° W. longitude.		*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Western Bank	12	496,500	$9,594	1,565,955	$36,925	1,635	$32	32,650	$303
West of 66° W. longitude.									
Georges Bank	105	1,298,920	46,246	8,726,380	239,925	17,115	310	59,050	2,474
South Channel	227	685,563	25,384	16,345,558	471,680	222,900	4,456	163,575	4,231
Nantucket Shoals	2	1,850	34	97,000	1,782	.....	.....	225	6
Total	346	2,482,833	81,258	26,734,893	750,312	241,650	4,798	255,500	7,014
BY MONTHS.									
January	53	378,960	22,963	4,157,720	158,542	5,435	237	74,470	3,149
February	34	354,176	9,393	3,433,005	81,656	2,430	179	12,295	715
March	5	124,960	2,793	662,450	24,999	70	2	2,445	133
April	3	11,000	232	580,700	12,531	.....	.....	13,060	110
May	16	255,785	4,987	1,558,615	33,507	4,120	75	12,180	112
June	28	351,530	6,692	2,630,603	46,614	30,965	426	11,165	152
July	28	32,267	1,159	2,100,600	36,251	63,570	1,456	1,545	54
August	33	82,755	2,707	2,491,085	33,768	22,900	366	2,890	94
September	26	396,713	10,228	1,993,120	39,432	8,380	147	20,505	387
October	33	210,155	6,985	2,564,565	66,915	27,200	453	10,540	187
November	38	151,965	5,381	1,942,535	73,423	45,790	517	36,850	634
December	49	132,567	7,738	2,619,895	142,674	30,790	940	57,555	1,287
Total	346	2,482,833	81,258	26,734,893	750,312	241,650	4,798	255,500	7,014

	Number of trips.	Cusk.		Halibut.		Miscellaneous.		Total.	
BY FISHING GROUNDS.									
East of 66° W. longitude.		*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Western Bank	12	480	$10	4,332	$689	2,990	$87	2,104,542	$47,640
West of 66° W. longitude.									
Georges Bank	105	.....	.....	32,848	5,301	285,198	16,683	10,419,511	310,939
South Channel	227	412	9	26,858	5,589	430,233	31,837	17,875,099	543,186
Nantucket Shoals	2	.....	.....	.....	.....	7,830	291	106,905	2,113
Total	346	892	19	64,038	11,579	726,251	48,898	30,506,057	903,878
BY MONTHS.									
January	53	.....	.....	5,363	1,477	53,757	5,648	4,675,705	192,016
February	34	.....	.....	11,281	3,054	38,450	2,554	3,851,637	97,551
March	5	.....	.....	962	198	6,030	349	796,917	28,474
April	3	.....	.....	405	55	.....	.....	605,165	12,928
May	16	480	10	2,363	439	21,328	879	1,854,871	40,009
June	28	.....	.....	6,770	969	17,041	946	3,043,074	55,799
July	28	.....	.....	3,147	448	25,705	1,520	2,226,834	40,888
August	33	.....	.....	2,006	248	55,925	3,262	2,657,561	40,445
September	26	.....	.....	13,674	944	114,775	6,032	2,547,167	57,170
October	33	137	4	6,756	1,335	131,972	8,646	2,951,325	84,525
November	38	175	3	8,704	1,712	183,830	10,325	2,369,849	91,995
December	49	100	2	2,607	700	77,438	8,737	2,920,952	162,078
Total	346	892	19	64,038	11,579	726,251	48,898	30,506,057	903,878

COD, HADDOCK, AND HAKE LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY OTTER TRAWLERS IN VARIOUS YEARS, 1908 TO 1921.

Year.	Trips.	Cod.	Haddock.	Hake.	Year.	Trips.	Cod.	Haddock.	Hake.
	Number.	*Pounds.*	*Pounds.*	*Pounds.*		*Number.*	*Pounds.*	*Pounds.*	*Pounds.*
1908....	44	209,800	1,542,000	46,600	1913....	326	1,667,806	12,488,992	209,485
1909....	47	159,800	1,719,000	74,400	1914....	387	1,149,595	15,383,550	259,913
1910....	59	125,850	2,775,000	46,600	1920....	646	6,311,389	51,962,457	.....
1911....	178	564,500	7,367,100	151,700	1921....	346	2,482,833	26,734,893	241,650
1912....	295	1,952,950	12,966,700	105,500					

VESSEL LANDINGS OF COD, HADDOCK, AND HALIBUT.

The following tables give the catch of cod, haddock, and halibut landed at Boston and Gloucester, Mass., and Portland, Me., by fishing vessels in 1921, taken from each fishing bank each month by otter trawls and by all other forms of fishing apparatus. The landings include both fresh and salted fish, but the latter have been converted to the equivalent weights of fresh fish in the condition landed.

VESSEL LANDINGS OF COD, HADDOCK, AND HALIBUT AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., FOR EACH MONTH OF 1921, SHOWN BY APPARATUS AND FISHING BANKS.

[Salt fish have been reduced to the basis of weights of fresh fish.]

JANUARY.

	Trips.	Cod.		Haddock.		Trips.	Halibut	
BY OTTER TRAWLS.								
East of 66° W. longitude.								
	Number.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Number.*	*Pounds.*	*Value.*
Western Bank	2	12,665	$411	60 290	$1,722	1	180	$51
West of 66° W. longitude.								
Georges Bank	36	296,257	19,219	2,980,790	112,182	27	4,282	1,223
South Channel	16	70,038	3,333	1,116,640	44,638	8	901	203
Total	54	378,960	22,963	4,157,720	158,542	36	5,363	1,477
BY OTHER APPARATUS.								
East of 66° W. longitude.								
La Have Bank	5	215,975	8,798	145,335	5,532	5	2,463	711
Quereau Bank	2	9,419	272	.....	.....	1	4,980	1,441
Cape Shore	6	149,535	3,536	23,945	240	.....	.....	.....
Gulf of St. Lawrence	1	24,750	1,052	12,000	255	.....	.....	.....
West of 66° W. longitude.								
Browns Bank	41	992,431	41,562	714,960	22,927	35	34,805	9,157
Georges Bank	33	643,200	30,775	1,092,845	34,118	25	6,502	2,034
Fippenies Bank	3	23,330	1,804	10,575	692	1	59	24
Middle Bank	40	135,252	7,516	263,218	13,485	19	1,857	619
Jeffreys Ledge	19	52,035	2,027	153,362	8,082	15	1,183	271
South Channel	2	10,195	959	25,100	1,454	.....	.....	.....
Nantucket Shoals	2	4,010	141	22,215	697	1	55	14
Off Chatham	10	28,470	1,286	183,800	6,472	6	1,192	320
Shore, general	243	272,638	9,996	124,922	7,428	29	796	175
Total	407	2,561,240	109,724	2,772,277	101,382	137	53,893	14,766
Grand total	461	2,940,200	132,687	6,929,997	259,924	173	59,256	16,243

VESSEL LANDINGS OF COD, HADDOCK, AND HALIBUT AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., FOR EACH MONTH OF 1921, SHOWN BY APPARATUS AND FISHING BANKS—Continued.

FEBRUARY.

	Trips.	Cod.		Haddock.		Trips.	Halibut.	
BY OTTER TRAWLS.								
West of 66° W. longitude.	*Number.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Number.*	*Pounds.*	*Value.*
Georges Bank	31	311,830	$8,155	2,983,255	$68,316	28	8,870	$2,387
South Channel	5	42,346	1,238	449,750	13,340	5	2,411	667
Total	36	354,176	9,393	3,433,005	81,656	33	11,281	3,054
BY OTHER APPARATUS.								
East of 66° W. longitude.								
Quereau Bank	4	47,406	1,270	.....	.....	2	52,136	12,959
Green Bank	.....	.....	.....	.....	.....	1	21,163	5,455
St. Peters Bank	1	5,059	140	.....	.....	2	62,499	11,386
The Gully	1	12,903	357	.....	.....	1	27,751	5,422
West of 66° W. longitude.								
Browns Bank	1	2,500	75	.....	.....	1	6,177	996
Georges Bank	106	4,770,378	134,819	2,478,299	67,845	65	10,942	3,423
Middle Bank	17	28,990	914	204,370	7,944	10	861	149
Jeffreys Ledge	73	145,334	3,788	469,557	20,482	35	1,490	285
South Channel	5	19,905	534	145,640	4,509	5	25	74
Off Chatham	11	33,750	915	250,550	8,513	9	1,160	274
Shore, general	302	222,593	7,036	401,913	17,816	11	234	59
Total	521	5,288,818	149,848	3,950,329	127,109	142	184,666	40,482
Grand total	557	5,642,994	159,241	7,383,334	208,765	175	195,947	43,536

MARCH.

BY OTTER TRAWLS.								
East of 66° W. longitude.								
Western Bank	1	27,275	$513	198,400	$7,418	1	279	$55
West of 66° W. longitude.								
Georges Bank	4	97,685	2,280	464,050	17,581	4	683	143
Total	5	124,960	2,793	662,450	24,999	5	962	198
BY OTHER APPARATUS.								
East of 66° W. longitude.								
La Have Bank	2	61,840	2,506	110,450	5,044	2	11,090	2,460
Western Bank	9	29,810	1,062	.....	.....	7	211,581	42,249
Quereau Bank	.....	.....	.....	.....	.....	4	87,346	18,400
The Gully	12	169,376	3,178	155	1	3	85,015	16,813
West of 66° W. longitude.								
Browns Bank	7	332,600	9,859	229,600	8,115	11	8,258	2,115
Georges Bank	107	5,146,646	137,272	1,601,280	50,977	44	10,581	2,726
Middle Bank	13	23,363	839	138,400	6,423	10	572	145
Jeffreys Ledge	28	61,500	1,927	110,150	5,577	7	217	46
South Channel	28	140,307	6,110	843,620	37,362	19	1,377	329
Off Chatham	16	69,470	1,951	393,290	17,312	7	409	110
Shore, general	564	572,452	21,656	1,686,289	81,116	10	980	221
Total	786	6,607,364	186,360	5,113,234	211,927	124	417,426	85,614
Grand total	791	6,732,324	189,153	5,775,684	236,926	129	418,388	85,812

VESSEL LANDINGS OF COD, HADDOCK, AND HALIBUT AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., FOR EACH MONTH OF 1921, SHOWN BY APPARATUS AND FISHING BANKS—Continued.

APRIL.

	Trips.	Cod.		Haddock.		Trips.	Halibut.	
BY OTTER TRAWLS.								
East of 66° W. longitude.								
	Number.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Number.*	*Pounds.*	*Value.*
Western Bank	3	11,000	$232	580,700	$12,531	2	405	$55
BY OTHER APPARATUS.								
East of 66° W. longitude.								
La Have Bank	9	191,623	4,857	338,955	17,819	9	26,072	4,713
Western Bank	6	249,618	4,461	20,705	532	1	1,530	361
Quereau Bank	1	4,500	105			1	17,534	2,821
St. Peters Bank						1	24,134	3,895
Burgeo Bank	1	10,663	222			1	34,853	5,051
The Gully	4	74,430	1,952			4	121,302	22,488
West of 66° W. longitude.								
Browns Bank	39	1,072,465	31,122	860,725	47,016	33	36,801	6,844
Georges Bank	57	1,343,731	31,291	165,970	6,045	27	234,997	42,438
Clarkes Bank	1	43,340	1,215	20,200	1,240	1	584	117
Middle Bank	7	21,140	642	45,890	2,620	6	437	72
Platts Bank	13	70,090	1,557	32,220	1,563	4	478	72
Jeffreys Ledge	6	26,505	815	17,740	1,200	1	52	8
South Channel	48	453,476	14,774	1,074,835	63,656	37	8,799	1,288
Nantucket Shoals	3	14,245	283			2	48	10
Off Chatham	11	98,375	3,568	139,045	10,159	7	497	96
Shore, general	564	538,301	17,055	1,019,637	62,203	20	5,123	996
Total	770	4,212,502	113,918	3,735,922	214,053	155	513,241	91,270
Grand total	773	4,223,502	114,150	4,316,622	226,584	157	513,646	91,325

MAY.

BY OTTER TRAWLS.								
East of 66° W. longitude.								
Western Bank	4	235,060	$4,228	463,065	$9,984	2	1,516	$235
West of 66° W. longitude.								
South Channel	10	18,875	725	998,550	21,741	3	847	204
Nantucket Shoals	2	1,850	34	97,000	1,782			
Total	16	255,785	4,987	1,558,615	33,507	5	2,363	439
BY OTHER APPARATUS.								
East of 66° W. longitude.								
La Have Bank	5	89,090	2,775	60,330	1,613	5	22,672	3,914
Western Bank	4	193,550	4,448			3	65,767	11,498
Quereau Bank	1	66,937	1,264					
Misaine Bank						1	27,971	5,033
Grand Bank	2	140,283	2,832			2	24,833	2,855
The Gully	1	11,040	269			1	17,508	3,255
West of 66° W. longitude.								
Browns Bank	21	480,033	19,485	463,440	15,449	20	19,499	4,266
Georges Bank	72	1,681,824	47,157	270,485	7,237	52	147,677	27,008
Middle Bank	2	4,765	159	7,500	244	2	860	185
Platts Bank	7	39,865	847	3,350	195	5	4,016	792
Jeffreys Ledge	5	15,955	551	9,390	648	2	146	13
South Channel	81	475,611	16,548	2,663,535	83,549	62	11,589	2,298
Nantucket Shoals	9	82,700	2,378	1,165	21	3	556	107
Off Chatham	5	141,475	2,850	75,000	1,463	5	3,387	600
Shore, general	320	656,114	23,661	141,646	6,910	19	4,861	975
Total	535	4,079,242	125,224	3,695,841	117,329	182	351,342	62,799
Grand total	551	4,335,027	130,211	5,254,456	150,836	187	353,705	63,238

VESSEL LANDINGS OF COD, HADDOCK, AND HALIBUT AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., FOR EACH MONTH OF 1921, SHOWN BY APPARATUS AND FISHING BANKS—Continued.

JUNE.

	Trips.	Cod.		Haddock.		Trips.	Halibut.	
BY OTTER TRAWLS.								
East of 66° W. longitude.	*Number.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Number.*	*Pounds.*	*Value.*
Western Bank	2	210,500	$4,210	263,500	$5,270	1	1,952	$293
West of 66° W. longitude.								
South Channel	26	141,030	2,482	2,367,103	41,344	18	4,818	676
Total	28	351,530	6,692	2,630,603	46,614	19	6,770	969
BY OTHER APPARATUS.								
East of 66° W. longitude.								
La Have Bank	10	271,350	4,987	59,880	706	7	18,876	2,725
Western Bank	5	609,767	12,078			9	217,832	22,602
Quereau Bank	9	187,586	4,053	79,700	753	5	135,748	17,856
Grand Bank	13	536,305	11,403	134	1	5	122,741	12,366
Sambro Bank	1	20,068	410					
Burgeo Bank						2	44,176	5,314
Cape Shore	27	87,201	1,975	39,680	443	3	3,686	539
The Gully	1	58,760	1,307			1	21,136	3,457
West of 66° W. longitude.								
BrownsBank	43	1,420,263	29,334	302,695	2,504	61	28,437	4,635
Georges Bank	57	1,666,734	37,890	229,486	2,144	1	117,052	14,183
Cashes Bank	1	7,325	101			1	2,217	450
Clarkes Bank	1	3,700	185	48,500	1,005	1	100	15
Fippenies Bank	1	7,985	141	25	1	1	1,692	268
Platts Bank	8	40,859	693	190	11	7	5,736	1,023
Jeffreys Ledge	2	3,370	111					
South Channel	65	706,915	19,900	2,331,655	38,758	60	8,669	1,383
Nantucket Shoals	4	12,800	601	200	6	1	297	46
Off Chatham	2	30,145	859			2	2,355	293
Shore, general	329	683,104	20,435	36,209	1,469	20	6,214	1,086
Total	579	6,354,237	146,463	3,128,354	47,801	187	736,964	88,241
Grand total	607	6,705,767	153,155	5,758,957	94,415	206	743,734	89,210

JULY.

BY OTTER TRAWLS.								
West of 66° W. longitude.								
South Channel	28	32,267	$1,159	2,100,600	$36,251	16	3,147	$448
BY OTTER APPARATUS.								
East of 66° W. longitude.								
La Have Bank	15	748,264	14,127	240,350	2,371	7	27,910	3,056
Western Bank	11	1,008,247	20,877			5	127,684	13,359
Grand Bank	8	557,844	12,273			8	375,720	38,273
Cape Shore	2	67,380	1,706	1,775	9	2	180	29
West of 66° W. longitude.								
Browns Bank	34	1,402,435	41,569	161,105	2,017	22	86,304	10,060
Georges Bank	108	1,194,381	30,886	227,369	2,481	23	159,644	18,911
Cashes Bank	1	2,520	57			1	175	26
Fippenies Bank	1	6,255	156	20	1	1	106	21
Platts Bank	7	28,989	1,069	290	15	7	5,392	760
Jeffreys Ledge	4	4,130	126	1,410	25	3	207	33
South Channel	52	564,841	19,078	2,278,135	46,956	50	8,200	1,181
Off Chatham	9	57,035	2,309	29,540	580	3	199	35
Shore, general	212	362,326	15,642	51,181	1,325	9	2,002	303
Total	464	6,004,647	159,875	2,991,175	55,780	141	793,723	86,047
Grand total	492	6,036,914	161,034	5,091,775	92,031	157	796,870	86,495

VESSEL LANDINGS OF COD, HADDOCK, AND HALIBUT AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., FOR EACH MONTH OF 1921, SHOWN BY APPARATUS AND FISHING BANKS—Continued.

AUGUST.

	Trips.	Cod.		Haddock.		Trips.	Halibut.	
BY OTTER TRAWLS.								
West of 66° W. longitude.	*Number.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Number.*	*Pounds.*	*Value.*
Georges Bank	8	38,560	$1,244	510,230	$6,709	3	226	$29
South Channel	25	44,195	1,463	1,980,855	27,059	12	1,780	219
Total	33	82,755	2,707	2,491,085	33,768	15	2,006	248
BY OTHER APPARATUS.								
East of 66° W. longitude.								
La Have Bank	11	333,076	7,720	31,935	319	8	54,216	6,227
Western Bank	2	179,665	3,579	10,800	108	2	46,628	5,642
Green Bank						1	40,933	3,322
Grand Bank	40	737,643	16,417			20	645,169	62,730
West of 66° W. longitude.								
Browns Bank	44	1,669,208	43,843	226,630	2,213	28	76 433	9,152
Georges Bank	124	1,426,089	39,830	589,730	5,900	33	126,984	17,030
Cashes Bank	1	3,170	102	30	1	1	1,172	183
Jeffreys Ledge	12	15,682	439	22,385	939	5	342	49
South Channel	64	752,665	24,783	2,908,360	43,315	63	20,424	2,949
Nantucket Shoals	3	40,200	1,099	670	10	1	20	3
Off Chatham	10	60,770	2,144	39,820	629	7	273	43
Seal Island	1	43,800	1,233	325	3	1	47	10
Shore, general	187	329,173	13,629	43,537	1,252	25	1,750	242
Total	499	5,591,141	154,818	3,874,222	54,689	195	1,014,391	107,582
Grand total	532	5,673,896	157,525	6,365,307	88,457	210	1,016,397	107,830

SEPTEMBER.

BY OTTER TRAWLS.								
West of 66° W. longitude.								
Georges Bank	19	383,983	$9,591	1,330,525	$22,337	9	11,990	$704
South Channel	7	12,730	637	662,595	17,095	6	1,684	240
Total	26	396,713	10,228	1,993,120	39,432	15	13,674	944
BY OTHER APPARATUS.								
East of 66° W. longitude.								
La Have Bank	7	176,805	3,323	62,905	633	3	7,225	894
Western Bank	13	1,175,198	25,686	105,230	1,252	3	35,286	5,172
Quereau Bank	1	74,371	1,653			2	36,694	4,390
Grand Bank	18	1,664 113	36,084			20	576,245	63,667
St. Peters Bank	2	587,599	12,310			1	990	42
Cape Shore	18	90,031	4,605	4,100	90			
The Gully	5	190,547	4,165			1	50	2
West of 66° W. longitude.								
Browns Bank	6	174,660	7,835	21,850	803	4	2,897	472
Georges Bank	94	1,563,019	55,537	1,206,474	20,529	34	61,006	8,608
Middle Bank	1	143,264	3,218					
Platts Bank	5	15,950	497	4,756	327	3	560	53
Jeffreys Ledge	19	27,864	1,476	12,235	637	7	1,106	166
South Channel	45	286,806	13,608	2,122,235	56,690	39	13,489	1,993
Nantucket Shoals	3	43,545	1,938	1,400	23			
Off Chatham	6	34,980	1,475	107,630	3,166	6	496	61
Shore, general	162	105,853	4,796	12,793	474	11	565	72
Total	405	6,359,605	178,206	3,661,608	84,624	134	736,609	85,592
Grand total	431	6,756,318	188,434	5,654,728	124,056	149	750,283	86,536

VESSEL LANDINGS OF COD, HADDOCK, AND HALIBUT AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., FOR EACH MONTH OF 1921, SHOWN BY APPARATUS AND FISHING BANKS—Continued.

OCTOBER.

	Trips.	Cod.		Haddock.		Trips.	Halibut.	
BY OTTER TRAWLS.								
West of 66° W. longitude.	*Number.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Number.*	*Pounds.*	*Value.*
Georges Bank	5	82,840	$3,030	231,265	$3,898	5	1,932	$219
South Channel	26	127,315	3,955	2,333,300	63,017	22	4,824	1,116
Total	31	210,155	6,985	2,564,565	66,915	27	6,756	1,335
BY OTHER APPARATUS.								
East of 66° W. longitude.								
La Have Bank	14	273,632	10,172	232,805	5,182	12	9,163	1,779
Western Bank	7	318,093	9,506	18,345	167	3	47,559	5,613
Quereau Bank	8	82,575	2,212	.....	.....	8	231,995	33,095
Green Bank	15	330,894	6,826	.....	.....	3	129,083	19,157
Grand Bank	10	773,520	14,384	.....	.....	8	289,096	38,681
St. Peters Bank	1	373,099	7,130	.....	.....	.....	.....	.....
Cape Shore	2	32,720	2,283	550	22	1	122	43
West of 66° W. longitude.								
Browns Bank	30	723,093	31,029	216,217	3,519	17	29,479	6,688
Georges Bank	35	727,144	23,887	616,375	8,342	17	10,489	1,719
Fippenies Bank	2	15,315	759	2,115	152	1	405	41
Platts Bank	22	93,920	4,239	10,055	604	6	223	29
Jeffreys Ledge	46	168,700	6,500	54,857	2,143	18	3,896	625
South Channel	85	517,829	28,766	2,483,268	70,137	53	6,502	1,273
Nantucket Shoals	4	42,245	2,257	1,115	25	2	28	8
Shore, general	373	612,516	25,159	16,701	995	15	838	117
Total	654	5,085,295	175,109	3,652,403	91,288	164	758,878	108,868
Grand total	685	5,295,450	182,094	6,216,968	158,203	191	765,634	110,203

NOVEMBER.

BY OTTER TRAWLS.								
West of 66° W. longitude.								
Georges Bank	3	77,345	$2,182	196,265	$6,802	3	4,495	$532
South Channel	32	74,620	3,199	1,746,270	66,621	27	4,209	1,180
Total	35	151,965	5,381	1,942,535	73,423	30	8,704	1,712
BY OTHER APPARATUS.								
East of 66° W. longitude.								
La Have Bank	9	161,926	4,061	96,010	2,145	4	797	186
Western Bank	1	23,090	393	.....	.....	1	100	25
Quereau Bank	4	201,321	4,038	9,737	71	1	200	8
Green Bank	3	27,170	736	.....	.....	1	2,040	465
Cape Shore	9	167,580	4,269	55,825	1,715	4	389	121
Roseway Bank	1	39,300	2,338	2,900	161	.....	.....	.....
West of 66° W. longitude.								
Browns Bank	24	459,521	16,931	277,855	11,243	18	13,007	2,956
Georges Bank	18	255,025	8,025	267,970	8,184	12	3,330	822
Fippenies Bank	2	12,555	657	9,150	549	1	156	21
Middle Bank	6	21,545	980	32,815	1,256	3	518	85
Platts Bank	9	29,900	1,596	7,680	521	4	421	71
Jeffreys Ledge	30	91,793	3,534	60,318	3,848	18	1,903	334
South Channel	63	400,311	18,303	1,384,885	55,051	33	4,929	1,192
Off Chatham	3	19,005	1,539	36,725	1,639	1	185	93
Shore, general	469	327,552	9,880	90,780	4,327	5	218	44
Total	651	2,237,594	77,280	2,332,650	90,710	106	28,193	6,423
Grand total	686	2,389,559	82,661	4,275,185	164,133	136	36,897	8,135

VESSEL LANDINGS OF COD, HADDOCK, AND HALIBUT AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., FOR EACH MONTH OF 1921, SHOWN BY APPARATUS AND FISHING BANKS—Continued.

DECEMBER.

	Trips.	Cod.		Haddock.		Trips.	Halibut.	
BY OTTER TRAWLS.								
West of 66° W. longitude.	*Number.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Number.*	*Pounds.*	*Value.*
Georges Bank	1	10,420	$545	30,000	$2,100	1	370	$64
South Channel	48	122,147	7,193	2,589,895	140,574	21	2,237	636
Total	49	132,567	7,738	2,619,895	142,674	22	2,607	700
BY OTHER APPARATUS.								
East of 66° W. longitude.								
La Have Bank	3	36,915	1,911	49,075	2,839	2	759	348
Western Bank						1	12,710	1,827
Quereau Bank	1	1,975	99			1	6,445	997
Grand Bank	1	3,150	76			1	7,489	1,418
St. Peters Bank	2	22,540	481					
Cape Shore	5	114,141	4,798	3,850	150	1	23	7
West of 66° W. longitude.								
Browns Bank	39	636,818	29,196	891,060	46,521	36	18,829	5,687
Georges Bank	3	37,230	2,086	82,395	4,354	3	2,313	432
Fippenies Bank	4	24,575	1,545	12,655	751	3	1,146	280
Middle Bank	7	23,080	1,072	44,135	2,552	5	688	115
Platts Bank	4	22,125	1,184	10,150	896	4	95	12
Jeffreys Ledge	53	262,546	10,123	188,143	11,587	28	2,181	389
South Channel	24	150,165	7,309	322,595	18,330	20	6,382	1,298
Nantucket Shoals	1	9,285	566					
Off Chatham	9	45,545	2,798	117,225	6,698	8	1,598	941
Shore, general	292	201,924	9,439	64,725	4,488	11	437	60
Total	448	1,592,014	72,683	1,786,008	99,166	124	61,095	13,811
Grand total	497	1,724,581	80,421	4,405,903	241,840	146	63,702	14,511

TOTAL, JANUARY TO DECEMBER.

BY OTTER TRAWLS.								
East of 66° W. longitude.								
Western Bank	12	496,500	$9,594	1,565,955	$36,925	7	4,332	$689
West of 66° W. longitude.								
Georges Bank	107	1,298,920	46,246	8,726,380	239,925	80	32,848	5,301
South Channel	223	685,563	25,384	16,345,558	471,680	138	26,858	5,589
Nantucket Shoals	2	1,850	34	97,000	1,782			
Total	344	2,482,833	81,258	26,734,893	750,312	225	64,038	11,579
BY OTHER APPARATUS								
East of 66° W. longitude.								
La Have Bank	90	2,560,496	65,237	1,428,030	44,203	64	181,243	27,013
Western Bank	58	3,787,038	82,090	155,080	2,059	35	766,677	108,348
Quereau Bank	31	676,090	14,966	89,437	824	25	573,078	91,967
Misaine Bank						1	27,971	5,033
Green Bank	18	358,064	7,562			6	193,219	28,399
Grand Bank	93	4,412,858	93,469	134	1	64	2,041,293	219,990
St. Peters Bank	6	988,297	20,061			4	87,623	15,323
Sambro Bank	1	20,068	410					
Burgeo Bank	1	10,663	222			3	79,029	10,365
Cape Shore	69	708,588	23,172	129,725	2,669	11	4,400	739
Gulf of St. Lawrence	1	24,750	1,052	12,000	255			
The Gully	24	517,056	11,228	155	1	11	272,762	51,437
Roseway Bank	1	39,300	2,338	2,900	161			

VESSEL LANDINGS OF COD, HADDOCK, AND HALIBUT AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., FOR EACH MONTH OF 1921, SHOWN BY APPARATUS AND FISHING BANKS—Continued.

TOTAL, JANUARY TO DECEMBER—Continued.

	Trips.	Cod.		Haddock.		Trips.	Halibut.	
BY OTHER APPARATUS—continued.								
West of 66° W. longitude.	*Number.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Number.*	*Pounds.*	*Value.*
Browns Bank	329	9,366,027	$301,840	4,366,137	$162,327	286	360,926	$63,028
Georges Bank	814	20,455,401	579,455	8,828,678	218,156	336	891,517	139,334
Cashes Bank	3	13,015	260	30	1	3	3,564	659
Clarks Bank	2	47,040	1,400	68,700	2,245	2	684	132
Fippenies Bank	13	90,015	5,062	34,540	2,146	8	3,564	655
Middle Bank	93	406,399	15,340	736,328	34,524	55	5,793	1,370
Platts Bank	75	341,698	11,682	68,691	4,132	40	16,921	2,812
Jeffreys Ledge	297	875,414	31,417	1,099,547	55,168	139	12,723	2,219
South Channel	562	4,479,026	170,672	18,583,863	519,767	441	90,613	15,258
Nantucket Shoals	29	249,030	9,263	26,765	782	10	1,004	188
Off Chatham	91	619,020	21,694	1,372,625	56,631	61	11,752	2,866
Seal Island	1	43,800	1,233	325	3	1	47	10
Shore, general	4,017	4,884,546	178,384	3,690,333	189,803	185	24,018	4,350
Total	6,719	55,973,699	1,649,509	40,694,023	1,295,858	1,791	5,650,421	791,495
Grand total	7,063	58,456,532	1,730,767	67,428,916	2,046,170	2,016	5,711,459	803,074

VESSEL FISHERIES AT SEATTLE, WASH.

In the vessel fisheries at Seattle, Wash., there has been a decrease in the total quantity and value of products landed by the fishing fleet but an increase in the quantity, with a decrease in the value, of products landed by collecting vessels, as compared with the previous year. The decrease in the products landed by the fishing fleet was due chiefly to a decrease in the catch of halibut. There was an increase in the catch of sablefish, but some decrease in that of "lingcod" and rockfishes. Statistics of the vessel fisheries at Seattle have been collected by the local agent and published as monthly and annual statistical bulletins, giving the quantity and value of fishery products landed by American fishing and collecting vessels at that port.

In 1921 the fishing fleet at Seattle landed 866 trips, amounting to 3,666,700 pounds of fish, having a value to the fishermen of $1,423,303. This catch was taken from fishing grounds along the coast from Oregon to Portlock Bank, Alaska. The fishing areas from which the largest quantities of fish were obtained were Flattery Banks, west coast of Vancouver Island, and Hecate Strait. The products included halibut, 11,481,000 pounds, valued at $1,335,658; sablefish, 1,519,400 pounds, valued at $63,685; "lingcod," 463,300 pounds, valued at $16,391; and rockfishes 203,000 pounds, valued at $7,569. Compared with the previous year there was an increase of 14 trips by fishing vessels, but a decrease of 688,750 pounds, or 4.79 per cent, in the quantity and of $569,456, or 28.57 per cent, in the value of the products landed. There was a decrease in the catch of halibut of 1,202,450 pounds, or 9.48 per cent, in quantity and of $578,191, or 30.21 per cent, in value. The catch of "lingcod" decreased 49,735 pounds, or 9.69 per cent, in quantity and $4,762, or 22.51 per cent, in value; and the catch of rockfishes decreased

5,765 pounds, or 2.76 per cent, in quantity and $225, or 2.88 per cent, in value. There was an increase in the catch of sablefish of 569,200 pounds, or 59.90 per cent, in quantity and of $13,722, or 27.46 per cent, in value.

The fishery products taken in Puget Sound and landed at Seattle by collecting vessels during the year amounted to 12,428,525 pounds, valued at $778,878. These products included salmon, 10,349,700 pounds, valued at $679,171; herring, 560,000 pounds, valued at $4,340; steelhead trout, 90,260 pounds, valued at $10,353; smelt, 370,805 pounds, valued at $24,081; perch, 60,400 pounds, valued at $3,476; rockfishes, 147,480 pounds, valued at $9,712; "lingcod," 32,000 pounds, valued at $1,650; flounders, 106,500 pounds, valued at $2,086; sole, 207,080 pounds, valued at $6,724; and crabs, 504,300 pounds, valued at $37,285. Compared with the previous year there was an increase in the products landed by collecting vessels of 2,614,559 pounds, or 26.64 per cent, in quantity, but a decrease of $102,188, or 11.59 per cent, in value.

QUANTITIES AND VALUES OF CERTAIN FRESH FISHERY PRODUCTS LANDED AT SEATTLE, WASH., BY AMERICAN FISHING VESSELS, CALENDAR YEAR 1921.

	Number of trips.	Halibut.		Sablefish.	
BY FISHING GROUNDS.		*Pounds.*	*Value.*	*Pounds.*	*Value.*
Oregon coast	5	105,400	$14,173	21,200	$860
Flattery Banks	326	2,635,600	325,913	791,000	32,610
West coast, Vancouver Island	299	3,101,000	385,272	620,200	26,285
Queen Charlotte Islands grounds	19	367,900	57,481	26,500	1,420
Hecate Strait	186	4,158,600	413,107	18,500	800
Forrester Island grounds	2	58,000	5,695	40,000	1,600
Coronation Island	3	68,000	7,683	.....	.....
Cape Fairweather grounds	4	96,000	12,000	1,000	50
Yakutat grounds	20	786,500	103,984	1,000	60
Portlock Bank	2	104,000	10,350	.....	.....
Total	866	11,481,000	1,335,658	1,519,400	63,685
BY MONTHS.					
January	11	377,000	61,533	8,500	510
February	40	560,900	82,851	51,700	3,065
March	65	702,900	97,588	32,000	1,510
April	99	1,083,000	154,049	8,000	430
May	139	1,685,500	182,353	19,200	925
June	118	1,387,800	156,772	129,500	5,975
July	80	1,406,500	134,461	91,000	3,660
August	85	1,664,800	146,240	103,500	4,140
September	87	1,183,200	115,954	508,500	21,105
October	80	699,600	115,508	484,000	19,000
November	49	491,800	61,534	72,000	2,840
December	13	238,000	26,815	11,500	525
Total	866	11,481,000	1,335,658	1,519,400	63,685

QUANTITIES AND VALUES OF CERTAIN FRESH FISHERY PRODUCTS LANDED AT SEATTLE, WASH., BY AMERICAN FISHING VESSELS, CALENDAR YEAR 1921.—Continued.

	Number of trips.	"Lingcod."		Rockfishes.		Total.	
BY FISHING GROUNDS.		*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Oregon coast	5					126,600	$15,033
Flattery Banks	326	286,000	$9,980	83,500	$3,162	3,796,100	371,665
West coast, Vancouver Island	299	123,800	4,601	76,500	2,817	3,921,500	418,975
Queen Charlotte Islands grounds	19	2,000	80	1,000	40	397,400	59,021
Hecate Strait	186	43,500	1,410	36,000	1,310	4,256,600	416,627
Forrester Island grounds	2	8,000	320	6,000	240	112,000	7,855
Coronation Island	3					68,000	7,683
Cape Fairweather grounds	4					97,000	12,050
Yakutat Grounds	20					787,500	104,044
Portlock Bank	2					104,000	10,350
Total	866	463,300	16,391	203,000	7,569	13,666,700	1,423,303
BY MONTHS.							
January	11					385,500	62,043
February	40	22,800	966	11,000	390	646,400	87,272
March	65	27,000	850	16,500	510	778,400	100,458
April	99	74,000	2,050	25,000	720	1,190,000	157,249
May	139	45,500	755	5,000	70	1,755,200	184,103
June	118	8,000	280	6,000	230	1,531,300	163,257
July	80	79,500	3,140	25,500	1,020	1,602,500	142,281
August	85	67,000	2,740	34,500	1,400	1,869,800	154,520
September	87	123,500	5,305	74,000	3,119	1,889,200	145,483
October	80	14,500	290	5,500	110	1,203,600	134,908
November	49	1,500	15			565,300	64,389
December	13					249,500	27,340
Total	866	463,300	16,391	203,000	7,569	13,666,700	1,423,303

FISHERY PRODUCTS, BY MONTHS, TAKEN IN PUGET SOUND AND LANDED AT SEATTLE, WASH., BY COLLECTING VESSELS, 1921.

Species.	January.		February.		March.		April.		May.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Herring	102,000	$510	200,000	$1,000	68,000	$680	60,000	$600		
Salmon:										
Chum or keta	104,000	12,480								
King or spring	16,600	2,292							493,600	$59,232
Miscellaneous									22,000	2,640
Trout: Steelhead	6,000	720							45,360	5,443
Smelt	48,000	2,880	33,000	2,310	26,540	2,120	18,000	2,160	10,800	1,080
Perch			8,000	320	11,860	826	18,000	720		
Rockfishes	10,400	416	21,630	1,930	12,000	600	8,000	560	7,000	280
"Lingcod"	5,800	116	16,200	1,134	10,000	400				
Flounders			11,560	230	11,500	230	10,000	200	16,500	330
Sole	18,000	540	20,800	624	34,000	1,360	28,000	840	18,000	540
Crabs	66,000	4,500	47,900	3,490	58,520	3,990	61,600	4,200	28,600	1,950
Total	376,800	24,454	359,030	11,038	232,360	10,206	203,600	9,280	641,860	71,495

Species.	June.		July.		August.		September.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Salmon:								
Humpback or pink			224,000	$4,480	1,351,900	$40,557	311,600	$9,348
Chum or keta			14,300	429	83,660	2,509	47,850	1,335
King or spring	518,400	$62,218	1,623,000	162,000	977,050	97,705	528,200	47,538
Coho or silver	66,600	7,992	61,000	6,100	185,090	10,500	703,100	35,155
Sockeye or red	64,800	7,128	66,000	3,300	30,940	1,547		
Miscellaneous	21,000	2,310						
Trout: Steelhead	14,500	1,740	11,000	1,110	6,400	640		
Smelt					55,865	1,891	33,000	1,320
Rockfishes	12,100	847	16,300	960	11,300	678	10,000	600
Flounders	17,200	250	14,000	180	4,000	80	5,000	250
Sole	14,000	490	17,480	596	12,000	360	12,000	360
Total	728,600	82,975	2,047,080	179,155	2,718,205	156,467	1,650,750	95,906

FISHERY PRODUCTS, BY MONTHS, TAKEN IN PUGET SOUND AND LANDED AT SEATTLE, WASH., BY COLLECTING VESSELS, 1921—Continued.

Species.	October.		November.		December.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Herring			50,000	$750	80,000	$800	560,000	$4,340
Salmon:								
Humpback or pink	11,760	$235					1,899,260	54,620
Chum or keta	1,351,800	25,036					1,601,610	41,789
King or spring	30,650	3,065					4,187,500	434,050
Coho or silver	1,440,800	72,040					2,456,590	131,787
Sockeye or red							161,740	11,975
Miscellaneous							43,000	4,950
Trout: Steelhead	7,000	700					90,260	10,353
Smelt	38,600	2,300	40,000	4,000	67,000	4,020	370,805	24,081
Perch			12,600	910	10,000	700	60,400	3,476
Rockfishes	12,800	1,024	12,350	865	13,600	952	147,480	9,712
"Lingcod"							32,000	1,650
Flounders	6,400	128	4,100	82	6,300	126	106,500	2,086
Sole	8,300	279			24,500	735	207,080	6,724
Crabs	66,440	5,285	85,920	6,755	89,320	7,115	[1] 504,300	37,285
Total	2,974,550	110,092	204,970	13,362	290,720	14,448	12,428,525	778,878

[1] 22,880 dozen.

SMOKED-FISH INDUSTRY OF MAINE, 1921.

Exclusive of a few individuals smoking small quantities of alewives, there were 28 firms engaged in smoking fishery products in Maine in 1921, as compared with 50 firms in 1919.

The quantity of smoked products prepared amounted to 2,624,744 pounds, valued at $259,683, divided as follows: Herring, 2,111,206 pounds, valued at $189,653; finnan haddie, 471,205 pounds, valued at $67,105; and alewives 42,333 pounds, valued at $2,925. As compared with 1919 there has been a decrease of 41 per cent in quantity and 50 per cent in value of smoked fish prepared in the State.

SMOKED FISHERY PRODUCTS OF MAINE, 1921.

Products.	Pounds.	Value.	Products.	Pounds.	Value.
Smoked alewives	42,333	$2,925	Smoked herring—Contd.		
Finnan haddie [1]	471,205	67,105	Medium scale	44,000	$2,770
Kippered herring	78,080	9,148	Boneless	1,005,201	101,780
Smoked herring:			Whole	615,650	43,997
Bloaters	208,050	18,090			
Lengthwise	160,225	13,868	Total	2,624,744	259,683

[1] Includes small quantity of finnan cod.

FISHERY PRODUCTS RECEIVED AT MUNICIPAL FISH WHARF AND MARKET, WASHINGTON, D. C.[3]

The receipts of fishery products at the Municipal Fish Wharf and Market, Washington, D. C., in 1921 amounted to 9,066,744 pounds, an increase of 492,760 pounds, or 5.43 per cent, as compared with 1920. The five most important products in terms of quantity follow: Squeteagues or "sea trout," 1,956,483 pounds; oysters, 1,926,379 pounds, or 263,805 bushels; river herring, 1,447,192 pounds; shad, 592,337 pounds; and croaker, 581,734 pounds; a total of 6,504,125 pounds, or 71.73 per cent of the entire receipts

[3] Daily reports of the quantity of fishery products received at this market are received by the bureau for tabulation through the courtesy of the Health Department of the District of Columbia.

at this market. These were the five most important species in 1919 and 1920, representing 69.49 per cent and 70.65 per cent of the total receipts, respectively. The increase in receipts as compared with the previous year appears to confirm the slight improvement reported over conditions existing in 1920. The following fishes are usually abundant in the Washington (D. C.) markets: Bass, butterfish, carp, catfish, croaker, flounders, haddock, river herring, mackerel, perch, shad, spot, squeteagues or "sea trout," striped bass, whiting, oysters, and crabs, including crab meat.

FISHERY PRODUCTS, IN POUNDS, RECEIVED AT MUNICIPAL FISH WHARF AND MARKET, WASHINGTON, D. C., 1921.

Species.	January.	February.	March.	April.	May.	June.	July.
Bass, black and sea	48,526	29,981	12,683	1,200	10,600	14,600	3,872
Bluefish	600	400				3,800	500
Bowfin			400				
Butterfish	100	100		3,550	12,800	30,000	27,160
Carp	15,511	13,085	13,596	14,978	10,050	18,248	11,385
Catfish	6,583	15,564	45,712	17,794	10,590	20,730	12,875
Cod	4,100	9,050	4,900	5,350	1,550	3,700	200
Crappie	600	4,300					
Crevallé	200	100					
Croaker	7,100	6,157	122,032	77,465	43,300	118,480	98,100
Dace	80						
Eels	200	108	2,603	1,624	1,775	840	50
Flounders	27,500	27,093	52,336	11,080	15,825	29,122	7,800
Gizzard shad			150				
Haddock	10,450	22,850	50,725	3,350	5,650	1,150	
Hake	2,550	1,100	200				100
Halibut	10,360	5,650	6,017	5,060	10,350	19,450	11,175
Herring, river	27,565	42,911	146,954	707,037	252,125	600	
Hickory shad or "jacks"	200	400	5,974	3,685			
Kingfish				3,400			
Mackerel	5,400	10,100	18,200	600	7,900	16,850	7,600
Mullet	388	4,071	1,313				
Perch	30,049	33,139	56,868	13,369	8,250	5,051	1,700
Pike or pickerel	2,805	2,985	2,141				150
Pollock	1,500	1,405		1,300	600	200	
Redfish or red drum	360		500			600	
Salmon	600				1,000	500	5,000
Scup or porgy		1,000				400	2,500
Shad	30,101	13,713	156,015	360,254	24,508	746	
Sharks	200						
Sheepshead		100					
Smelt	1,345	575					
Spot		200	600			900	1,900
Squeteagues or "sea trout"	84,388	16,150	6,610	132,120	418,105	239,650	287,400
Striped bass	1,240	3,588	90,841	18,459	9,752	16,320	14,335
Sturgeon					266	138	
Sunfish			400				
Swordfish	450	5,875	2,115	1,325	700	3,725	1,550
Tullibee	210	375	230				
Whitefish	100	500					
Whiting						3,000	
Clams, hard [1]	5,152	10,560	7,936	3,264	7,296	11,776	10,656
Oysters: [1]							
In the shell	93,961	180,649	115,920	38,052	336		
Opened	75,745	51,364	35,021	13,299			
Scallops		196	880				
Crabs				2,409		27,150	53,220
Crab meat	2,620	2,600	375	2,380	3,560	12,835	18,720
Frogs			500				
Lobsters			200				140
Shrimp	525	1,650	300		800	100	
Turtles				149			
Total	499,364	519,644	961,247	1,442,553	857,688	600,661	578,088

FISHERY PRODUCTS, IN POUNDS, RECEIVED AT MUNICIPAL FISH WHARF AND MARKET, WASHINGTON, D. C., 1921—Continued.

Species.	August.	September.	October.	November.	December.	Total.
Bass, black and sea	7,950	4,600	4,470	13,200	14,800	166,482
Bluefish	5,650	22,350			600	33,900
Bowfin						400
Butterfish	48,290	42,300	27,450	21,000	13,200	225,950
Carp	3,780	9,825	8,560	5,275	10,595	134,888
Catfish	5,550	11,100	18,200	28,400	32,625	225,723
Cod	800	600	1,000	3,400	7,700	42,350
Crappie					800	5,700
Crevallé						300
Croaker	72,700	12,200	8,600	8,900	6,700	581,734
Dace						80
Eels					6,230	13,430
Flounders	12,600	12,400	10,100	5,700	19,300	230,856
Gizzard shad					1,500	1,650
Haddock	200	1,300	1,200	1,800	1,900	100,575
Hake			9,800	64,700	19,800	98,250
Halibut	12,400	16,200	11,500	19,000	18,500	145,662
Herring, river			60,000	90,000	120,000	1,447,192
Hickory shad or "jacks"						10,259
Kingfish						3,400
Mackerel	4,700	1,900	500	39,800	7,400	120,950
Mullet		800	455	8,100	1,800	16,927
Perch	1,215	2,920	1,000	6,580	14,700	174,841
Pike or pickerel		190	570		3,400	12,241
Pollock		1,000	2,800	5,500	6,300	20,605
Redfish or red drum		100	230			1,790
Salmon	4,300	5,400	8,500	5,400	5,700	36,400
Scup or porgy						3,900
Shad		400	700		5,900	592,337
Sharks						200
Sheepshead						100
Smelt						1,920
Spot	5,000	8,700	21,000	17,000		55,300
Squeteagues or "sea trout"	191,940	171,100	161,320	159,600	88,100	1,956,483
Striped bass	12,860	21,400	21,140	21,100	12,915	243,950
Sturgeon						404
Sunfish						400
Tilefish	400	1,850	1,500	1,700		21,190
Tullibee						815
Whitefish						600
Whiting			12,800	45,600	11,300	72,700
Clams, hard [1]	9,056	6,944	2,496	5,632	3,632	[2] 84,400
Oysters: [1]						
In the shell	399	40,705	183,855	319,200	427,000	[3] 1,400,077
Opened		8,498	70,331	100,031	172,013	[4] 526,302
Scallops				120		1,196
Crabs	40,650	25,875	2,250			151,554
Crab meat	14,975	27,975	8,975	250	250	95,515
Frogs						500
Lobsters						340
Shrimp	200			300		3,875
Turtles	2					151
Total	455,617	458,632	661,302	997,288	1,034,660	9,066,744

[1] The clams have been reduced to pounds on the basis of 8 pounds of meat to a bushel, the oysters on a basis of 7 pounds of meat to a bushel and 8½ pounds to a gallon.
[2] 10,550 bushels.
[3] 200,011 bushels.
[4] 63,794 gallons.

SHAD AND ALEWIFE FISHERIES OF THE POTOMAC RIVER, 1921.[4]

The number of persons employed in these fisheries in Maryland and Virginia in 1921 was 983, of whom 321 are credited to Maryland and 662 to Virginia. The number of boats in use were 623, valued at $77,150; pound nets, 266, valued at $87,295, of which 68 are credited to Maryland and 198 to Virginia; gill nets 296, valued at $37,565; seines 6, valued at $5,140; and shore and accessory property to the value of $7,735. The total investment amounted to $214,885.

[4] The canvass of these fisheries was made by Winthrop A. Roberts, statistical agent, U. S. Bureau of Fisheries.

The number of shad taken was 405,872, representing 1,160,438 pounds, with a value of $207,370, of which 49,681 shad, or 138,207 pounds, valued at $25,191, are credited to Maryland, and 356,191 shad, or 1,022,231 pounds, valued at $182,179, are credited to Virginia. The falling off of the catch of shad in these States in 1921 as compared with 1920 amounted to 123,486 shad, or 819,342 pounds in quantity and $127,094 in value.

The catch of river herring numbered 10,303,510 fish, or 4,121,404 pounds, valued at $44,041, of which 1,395,000, or 558,000 pounds, valued at $9,010, are credited to Maryland and 8,908,510 river herring, or 3,563,404 pounds, valued at $35,031, to Virginia.

SHAD AND ALEWIFE FISHERY OF THE POTOMAC RIVER, 1921.

Items.	Maryland.			Virginia.			Total.		
	Number.	*Pounds.*	*Value.*	*Number.*	*Pounds.*	*Value.*	*Number.*	*Pounds.*	*Value.*
Fishermen	321			662			983		
Row, sail, and houseboats	153		$3,080	219		$9,420	372		$12,500
Gasoline boats	47		11,500	204		53,150	251		64,650
Pound nets	68		9,395	198		77,900	266		87,295
Gill nets	127		17,390	169		20,175	296		37,565
Seines	4		1,140	2		4,000	6		5,140
Shore and accessory property			2,325			5,410			7,735
Total			44,830			170,055			214,885
Shad caught:									
With pound nets	6,320	21,418	4,137	260,581	735,990	127,174	266,901	757,408	131,311
With gill nets	35,761	97,501	17,316	93,950	281,056	54,196	129,711	378,557	71,512
With seines	7,600	19,288	3,738	1,660	5,185	809	9,260	24,473	4,547
Total	49,681	138,207	25,191	356,191	1,022,231	182,179	405,872	1,160,438	207,370
Alewives caught:									
With pound nets	[1]1,115,000	446,000	7,010	8,383,060	3,353,224	29,956	[1]9,498,060	3,799,224	36,966
With gill nets	80,000	32,000	800	365,450	146,180	4,115	445,450	178,180	4,915
With seines	200,000	80,000	1,200	160,000	64,000	960	360,000	144,000	2,160
Total	1,395,000	558,000	9,010	8,908,510	3,563,404	35,031	10,303,510	4,121,404	44,041

[1] Includes 30,000 alewives salted by the fishermen, weighing 12,000 pounds, and valued at $300.

BRIEF REVIEW OF THE SHAD FISHERY OF THE POTOMAC RIVER.

INTRODUCTION.

The perpetuation of the important shad fisheries of the Atlantic coast is a matter of concern to many of our fishermen. Beginning with 1915 the bureau has made an annual canvass of the shad fishery of the Hudson River, a river in which practically no fish-cultural operations have been practiced. Beginning with 1919 the bureau began a similar canvass of the shad fishery of the Potomac River, a river in which the propagation of shad has been conducted on a considerable scale for many years. In this connection it will be of interest to review the history of the Potomac River fishery briefly in so far as there are available data. In Figure 4 the catch of shad in the river is shown. The figures used for the period 1866 to 1880, inclusive, are based on an unpublished graph in the bureau's files that is believed to be sufficiently authentic as an index of the trend of the fishery to warrant publication, and those for later years are the re-

sults of actual canvasses of the fisheries given for such years as they were taken. In addition to this, a curve of the number of shad inspected in the District of Columbia from 1873 to 1920, inclusive, is also shown in Figure 4. For the period 1873 to 1896 Stevenson [5] states these represent from 50 to 75 per cent of the total yield of the river.

From the following table of the number of shad inspected in the District of Columbia from 1897 to 1920, inclusive, it will be observed that beginning with 1908 there were considerable receipts of fish in January and February, indicating receipts from sources other than the Potomac River. It is believed, however, that the curve furnishes a fairly reliable index of the fluctuations in catch over the period in question, and this is borne out by the closeness with which it follows the curve of the number of shad taken in the river in those years for which statistics are available.

NUMBER OF SHAD INSPECTED IN THE DISTRICT OF COLUMBIA FROM 1897 TO 1920, INCLUSIVE.

Year.	January.	February.	March.	April.	May.	June.	Total.
1897	.....	.....	190,593	182,164	22,794	[1] 1,534	397,085
1898	1	2	34,558	167,690	66,986	2,810	272,047
1899	1	.....	6,451	230,066	43,146	5,157	284,821
1900	.....	5	21,170	170,911	39,817	3,306	235,209
1901	.....	.....	12,656	112,218	46,565	1,507	172,946
1902	.....	.....	2,363	114,727	61,748	2,270	181,108
1903	.....	.....	34,437	108,646	36,989	4,372	184,444
1904	.....	.....	6,615	115,115	15,788	618	138,136
1905	.....	16	5,980	103,829	8,114	829	118,768
1906	.....	3	1,208	66,270	8,856	301	76,638
1907	.....	.....	.....	69,545	48,926	310	118,781
1908	2,587	9,007	65,983	101,272	22,540	25	201,414
1909	1,027	6,190	74,318	14,196	25,849	336	121,916
1910	708	6,948	109,211	123,608	25,152	1,270	266,897
1911	1,354	5,660	80,928	235,025	73,180	68	396,215
1912	34	2,330	53,237	271,256	103,354	1,145	431,356
1913	658	5,898	43,229	108,717	31,503	4	190,009
1914	[2]	[2]	[2]	[2]	[2]	[2]	131,958
1915	[2]	[2]	[2]	[2]	[2]	[2]	126,013
1916	[2]	[2]	[2]	[2]	[2]	[2]	238,518
1917	[2]	[2]	[2]	[2]	[2]	[2]	219,886
1918	[2]	[2]	[2]	[2]	[2]	[2]	188,259
1919	[2]	[2]	[2]	[2]	[2]	[2]	390,590
1920	[2]	[2]	[2]	[2]	[2]	[2]	267,442

[1] Includes 90 shad inspected in October.

[2] Monthly records not shown.

HISTORY.

A study of the graph reveals that the fishery for shad in the Potomac has fluctuated greatly. Even in the period from 1866 to 1880 the fluctuations were surprisingly large, the catches for 1867 and 1873 exceeding 1,250,000 fish, with much smaller catches in the intervening years. Following 1873 the catch steadily declined until in 1878 it was only slightly in excess of 160,000 fish. Of this early period it is stated: [6]

The fisheries of this river annually decreased in value and production up to the time of the war. The intermission which then ensued in the fishing operations on

[5] The Shad Fisheries of the Atlantic Coast of the United States, by Charles H. Stevenson, *in* Report of the Commissioner, U. S. Commission of Fish and Fisheries, for 1898 (1899), pp. 101 to 269. [See p. 200 for table of fish inspected.]

[6] The Fisheries and Fishery Industries of the United States, by George Brown Goode and associates, Section V, History and Methods of the Fisheries, Vol. 1, 1887, p. 645.

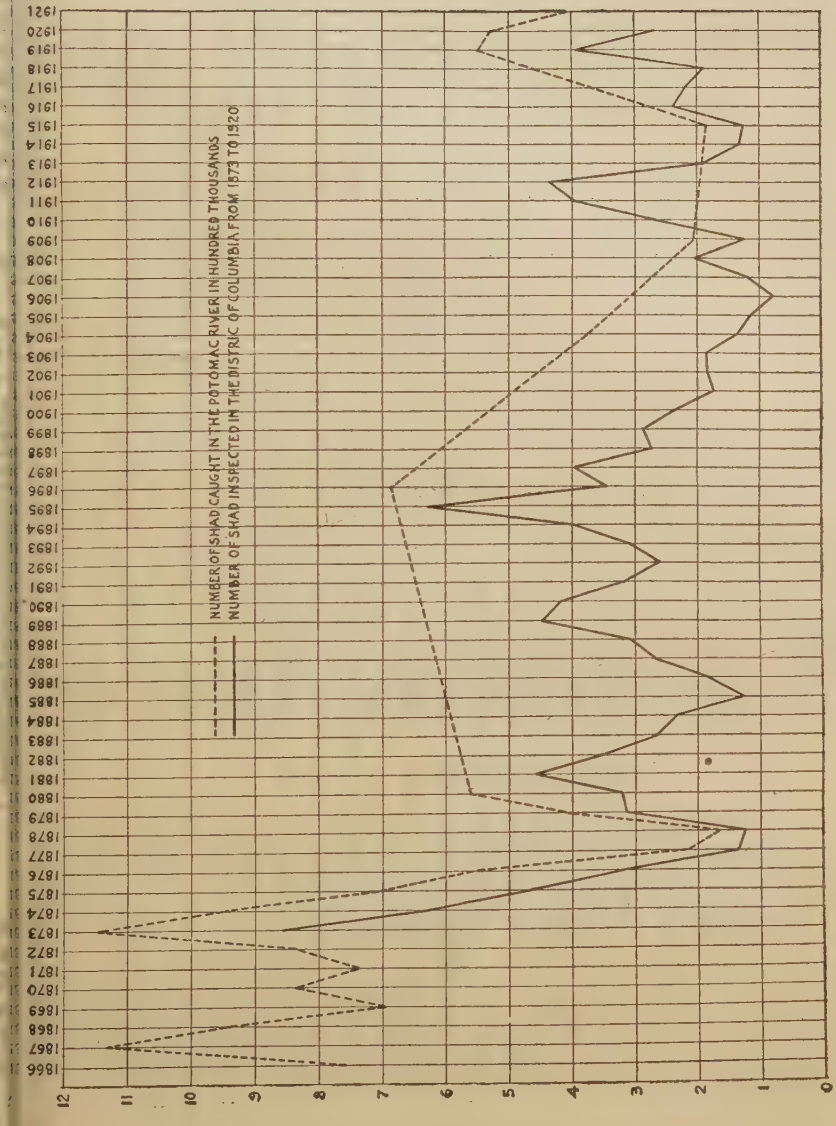

FIG. 4.—Shad fishery of the Potomac River, 1866 to 1921, inclusive. Catch shown in hundred thousands.

account of those of a martial character allowed the fisheries to recuperate, so that in the years immediately succeeding the war it was found that they had in a measure recovered from their former depletion. In 1878, the minimum of production was attained, during which season less than 200,000 shad were taken in the entire river. In 1879 the results of previous artificial propagation first manifested themselves, and there was a considerable increase in the run of shad, from which time the shad fisheries steadily increased, until in the season of 1880 nearly 600,000 were taken.

In the years preceding 1896 Stevenson (ibid., 1898) states that the average annual yield was about 750,000. From 1896 to 1921 statistics of the number of shad caught are available as follows: 1896, 684,063 shad; 1904, 372,647; 1909, 203,971; 1915, 182,402; 1919, 544,469; 1920, 529,358; and 1921, 405,872. Following 1878 it is apparent that the fishery was at a very low ebb in 1885, 1905 to 1907, 1909, 1914, and 1915, with occasional years of relative abundance.

Factors which have contributed to the depletion of the supply are: Intensiveness of fishing operations; changed conditions in the river, resulting from the advance of civilization, productive of conditions in its waters destructive to maintenance of supply of our important anadromous species; and such fluctuations as may be induced by weather conditions affecting the migration of the shad into and up the river. Of the first much has been said and written, of the second relatively little. Some close students of the question suggest that the shad is doomed, that the changed conditions in our rivers resulting from the advance of civilization are steadily growing more unfavorable for reproduction and that it is only a question of time until this important fish disappears from our waters. Certain it is that there is need for further investigations to determine the relative importance of the different factors contributing to the decline of this fishery and the extent to which fish-cultural operations and protective legislation are helping to maintain the supply. Such investigations should include studies of the changes taking place in the rivers and the possibilities of restoring them to a condition favorable to the reproduction and growth of such anadromous fishes. The annual statistical canvasses are being made for the purpose of yielding helpful information to those who may undertake such an investigation.

NOTES ON SPONGE FISHERY.

In 1921 the quantity of sponges sold at the Sponge Exchange, Tarpon Springs, Fla., was 386,390 pounds, valued at $540,093, of which 173,723 pounds, valued at $463,170, were large wool; 63,786 pounds, valued at $28,705, small wool; 70,218 pounds, valued at $30,428, yellow; 65,745 pounds, valued at $12,623, grass; and 12,918 pounds, valued at $5,167, wire. The prices of the small wool sponges were so low in the latter part of 1920 that several thousand bunches were held over for sale in 1921. For this reason the 1921 totals of this kind were larger than for the preceding year. It is estimated that sponges to the value of $40,000 were sold outside of the exchange at Tarpon Springs.

FROZEN FISH.

COLD-STORAGE HOLDINGS DURING 1921.

Beginning with October, 1916, the Bureau of Markets of the Department of Agriculture has been collecting and publishing data on the cold-storage holdings of frozen fish. These reports give the holdings on the 15th day of the current month. Arrangements were made in December, 1921, through the courtesy of the Bureau of Markets and Crop Estimates, for the Bureau of Fisheries to publish and disseminate this information beginning with the returns for Janaury 15, 1922,

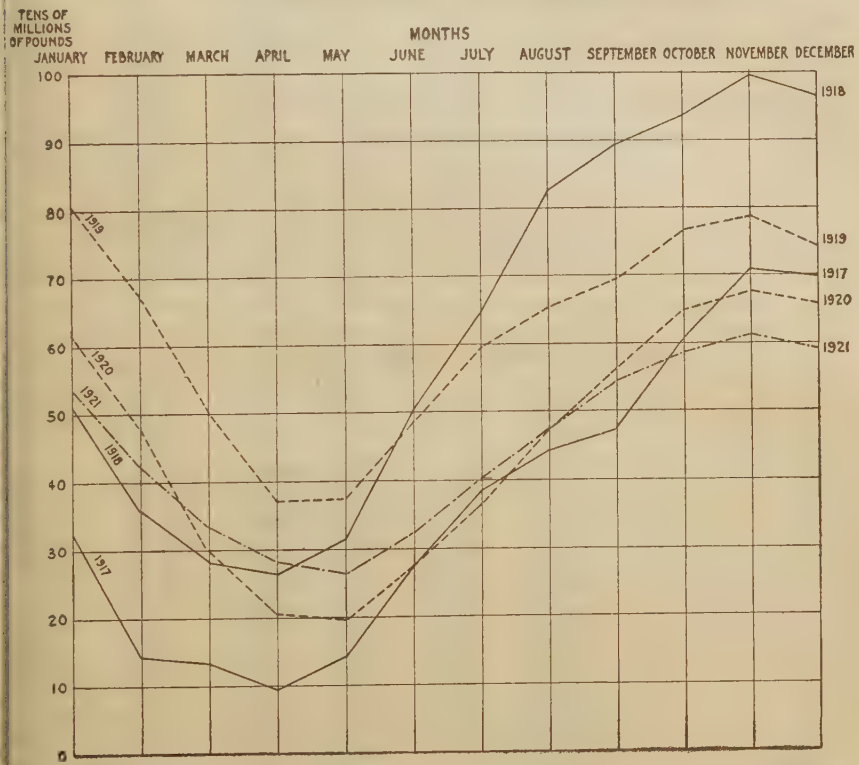

FIG. 5.—Cold-storage holdings of frozen fish in tens of millions of pounds, by months, 1917 to 1921, inclusive.

In the form of a monthly statistical bulletin. This bulletin gives the holdings by species, by sections; total holdings on hand for the current month and for the same month in the preceding year; the 5-year average; holdings for preceding month; and quantities of each species frozen during the month. These bulletins are being distributed on a separate mailing list.

The following table contains a summary of the holdings of frozen fish by species and by months for 1921 and totals for the years 1917 to 1920, inclusive, based on the returns furnished by the Bureau of Markets and Crop Estimates. The total holdings on the 15th of each month for the years 1917 to 1921, inclusive, are shown in graphic form in Figure 5.

Pounds of Frozen Fish in Cold Storage Each Month, by Species for 1921 and by Totals for 1920, 1919, 1918, and 1917.

Species.	Jan. 15.	Feb. 15.	Mar. 15.	Apr. 15.	May 15.	June 15.
1921.						
Bluefish	330,000	237,000	212,000	162,000	126,000	128,000
Butterfish	1,003,000	662,000	355,000	233,000	181,000	153,000
Ciscoes	5,952,000	4,957,000	3,945,000	3,331,000	2,783,000	2,525,000
Cod, hake, pollock, and haddock	3,580,000	3,131,000	2,815,000	2,236,000	1,991,000	1,955,000
Croaker	488,000	406,000	281,000	236,000	219,000	187,000
Halibut	5,961,000	4,117,000	2,526,000	1,965,000	2,773,000	4,375,000
Herring	6,357,000	5,208,000	3,775,000	2,654,000	1,988,000	2,889,000
Lake trout	1,665,000	1,394,000	1,114,000	936,000	896,000	944,000
Mackerel	2,211,000	1,480,000	1,198,000	841,000	675,000	1,695,000
Rockfishes	111,000	102,000	73,000	37,000	47,000	57,000
Sablefish	743,000	389,000	290,000	250,000	208,000	270,000
Salmon	5,607,000	4,419,000	2,777,000	1,900,000	1,466,000	1,621,000
Sea bass	123,000	65,000	50,000	36,000	23,000	28,000
Shad	303,000	161,000	90,000	52,000	77,000	196,000
Shad roe	41,000	34,000	22,000	23,000	18,000	54,000
Smelt, eulachon, etc.	171,000	331,000	672,000	304,000	293,000	248,000
Squeteagues	736,000	604,000	336,000	290,000	253,000	263,000
Squid	1,868,000	1,302,000	1,017,000	741,000	1,250,000	3,026,000
Whitefish	1,598,000	1,417,000	1,084,000	1,400,000	1,067,000	985,000
Whiting	5,685,000	3,754,000	2,854,000	2,606,000	2,366,000	2,690,000
Miscellaneous	9,318,000	7,946,000	7,918,000	8,211,000	7,646,000	8,022,000
Total, 1921	53,851,000	42,116,000	33,404,000	28,444,000	26,346,000	32,311,000
Total, 1920	61,510,357	47,904,057	29,958,132	20,632,834	19,803,817	27,779,230
Total, 1919	80,683,761	67,617,473	50,036,475	37,110,856	37,174,104	48,840,359
Total, 1918	51,116,037	35,907,071	28,457,301	26,548,272	31,403,425	50,298,027
Total, 1917	32,234,530	14,727,099	13,374,429	9,516,217	14,040,024	27,791,047

Species.	July 15.	Aug. 15.	Sept. 15.	Oct. 15.	Nov. 15.	Dec. 15.
1921.						
Bluefish	114,000	282,000	442,000	748,000	745,000	667,631
Butterfish	154,000	255,000	422,000	612,000	826,000	664,621
Ciscoes	2,605,000	4,444,000	5,839,000	6,343,000	5,894,000	6,243,839
Cod, hake, pollock, and haddock	1,916,000	1,878,000	1,865,000	1,633,000	1,766,000	1,721,849
Croaker	277,000	331,000	338,000	266,000	219,000	545,788
Halibut	6,213,000	7,693,000	9,129,000	8,486,000	7,995,000	6,868,971
Herring	3,775,000	3,715,000	3,870,000	5,259,000	5,624,000	5,788,866
Lake trout	1,032,000	991,000	1,053,000	1,213,000	2,004,000	2,488,786
Mackerel	1,670,000	1,696,000	1,603,000	1,496,000	1,667,000	1,834,162
Rockfishes	71,000	69,000	69,000	57,000	66,000	28,929
Sablefish	456,000	600,000	977,000	1,619,000	1,624,000	1,486,155
Salmon	3,087,000	4,809,000	7,033,000	8,716,000	9,149,000	7,526,214
Sea bass	56,000	68,000	61,000	56,000	59,000	51,754
Shad	270,000	325,000	349,000	331,000	344,000	287,205
Shad roe	54,000	45,000	43,000	28,000	28,000	26,694
Smelt, eulachon, etc.	268,000	272,000	335,000	334,000	317,000	380,396
Squeteagues	1,405,000	1,640,000	1,751,000	2,193,000	2,044,000	1,735,097
Squid	3,170,000	3,177,000	3,017,000	2,855,000	2,581,000	2,151,850
Whitefish	1,278,000	1,587,000	1,782,000	2,022,000	2,360,000	2,614,334
Whiting	4,499,000	4,974,000	5,258,000	5,096,000	5,405,000	4,750,282
Miscellaneous	7,790,000	8,580,000	9,233,000	9,536,000	10,511,000	11,262,223
Total, 1921	40,160,000	47,431,000	54,469,000	58,899,000	61,228,000	59,125,646
Total, 1920	36,617,706	47,140,132	56,295,975	64,730,531	67,549,377	65,841,000
Total, 1919	59,674,301	65,145,234	69,580,555	76,763,253	78,769,101	74,202,339
Total, 1918	64,864,532	82,554,798	89,203,946	93,811,909	99,631,789	96,600,247
Total, 1917	38,431,221	44,024,666	47,197,660	60,676,722	70,938,957	69,986,671

QUANTITIES FROZEN IN 1921.

The quantity of fish frozen between December 15, 1920, and December 15, 1921, was 79,173,892 pounds, as compared with 93,973,589 pounds for the preceding year. The principal varieties frozen were as follows: Halibut, 10,773,803 pounds; salmon, 10,033,619 pounds; herring, 9,827,671 pounds; ciscoes, 8,649,315

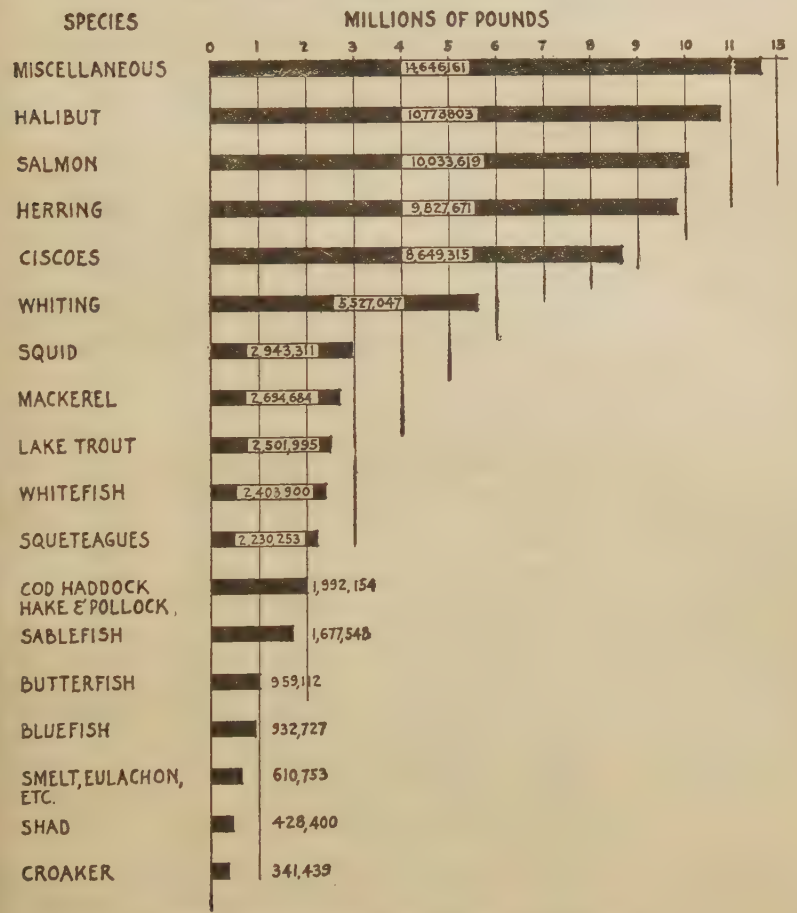

FIG. 6.—Quantities of fish frozen during 1921, by species.

pounds; and whiting, 5,527,047 pounds. The item of miscellaneous fishes amounted to 14,436,657 pounds and includes a large variety of fishery products—true fishes, both mollusks and crustaceans, etc. In Figure 6, which shows the relative amounts of each species, frozen shad roe has been added to the item of shad, and rockfishes, amounting to 77,255 pounds, and sea bass, amounting to 132,249 pounds, have been included in the item of miscellaneous fishes.

POUNDS OF FISH FROZEN MONTHLY, BY SPECIES FOR 1921 AND BY TOTAL FOR 1920.

Species.	Jan. 15.	Feb. 15.	Mar. 15.	Apr. 15.	May 15.	June 15.	July 15.
Bluefish	2,000	1,000	6,000	.....	22,000	19,000	186,000
Butterfish	7,000	7,000	.....	.....	14,000	2,000	108,000
Ciscoes	45,000	38,000	69,000	14,000	61,000	292,000	2,056,000
Cod, hake, pollock, and haddock	172,000	39,000	72,000	47,000	126,000	114,000	88,000
Croaker	2,000	2,000	.....	.....	11,000	108,000	32,000
Halibut	303,000	153,000	344,000	915,000	2,045,000	1,455,000	1,893,000
Herring	427,000	205,000	89,000	288,000	1,671,000	1,559,000	643,000
Lake trout	81,000	1,000	4,000	31,000	145,000	125,000	33,000
Mackerel	81,000	141,000	94,000	25,000	1,114,000	169,000	242,000
Rockfishes	7,000	.....	15,000	10,000	14,000	8,000	5,000
Sablefish	4,000	58,000	52,000	40,000	110,000	66,000	185,000
Salmon	344,000	129,000	60,000	41,000	345,000	1,250,000	1,867,000
Seabass	5,000	.....	1,000	.....	14,000	33,000	18,000
Shad	1,000	12,000	12,000	5,000	175,000	46,000	56,000
Shad roe	.....	.....	15,000	3,000	36,000	19,000	.....
Smelt, eulachon, etc	253,000	177,000	13,000	.....	12,000	.....	8,000
Squeteagues	6,000	8,000	4,000	.....	44,000	1,194,000	299,000
Squid	19,000	20,000	.....	487,000	1,791,000	261,000	273,000
Whitefish	148,000	38,000	136,000	11,000	12,000	272,000	289,000
Whiting	36,00	120,000	3,000	117,000	786,000	2,016,000	599,000
Miscellaneous	900,000	621,000	1,424,000	664,000	1,076,000	1,143,000	965,000
Total 1921	2,843,000	1,770,000	2,413,000	2,698,000	9,624,000	10,151,000	9,845,000
Total 1920	2,273,744	2,630,482	2,465,375	3,687,538	10,094,367	12,761,791	13,620,232

Species.	Aug. 15.	Sept. 15.	Oct. 15.	Nov. 15.	Dec. 15.	Total.
Bluefish	180,000	341,000	91,000	77,000	7,727	932,727
Butterfish	203,000	243,000	347,000	22,000	6,112	959,112
Ciscoes	1,875,000	1,076,000	1,394,000	1,157,000	572,315	8,649,315
Cod, hake, pollock, and haddock	95,000	617,000	286,000	186,000	150,154	1,992,154
Croaker	93,000	.....	31,000	61,000	1,439	341,439
Halibut	1,363,000	423,000	872,000	629,000	378,803	10,773,803
Herring	632,000	1,937,000	980,000	1,272,000	124,671	9,827,671
Lake trout	93,000	215,000	910,000	854,000	9,995	2,501,995
Mackerel	105,000	192,000	212,000	201,000	118,684	2,694,684
Rockfishes	4,000	2,000	1,000	8,000	3,255	77,255
Sablefish	339,000	655,000	121,000	34,000	13,548	1,677,548
Salmon	2,182,000	1,892,000	1,637,000	153,000	133,619	10,033,619
Seabass	4,000	9,000	9,000	9,000	30,249	132,249
Shad	28,000	19,000	1,000	.....	400	355,400
Shad roe	.....	.....	.....	.....	.....	73,000
Smelt, eulachon, etc	65,000	16,000	9,000	12,000	45,753	610,753
Squeteagues	190,000	462,000	7,000	3,000	13,253	2,230,253
Squid	53,000	7,000	3,000	18,000	11,311	2,943,311
Whitefish	207,000	357,000	245,000	640,000	48,900	2,403,900
Whiting	464,000	160,000	589,000	441,000	196,047	5,527,047
Miscellaneous	1,181,000	1,367,000	2,124,000	2,396,000	575,657	14,436,657
Total 1921	9,356,000	9,990,000	9,869,000	8,173,000	2,441,892	79,173,892
Total 1920	11,803,606	11,168,810	9,711,800	9,750,844	4,005,000	93,973,589

FISHERIES OF CALIFORNIA IN 1921.

Through the courtesy of the California Fish and Game Commission the bureau has received copies of its monthly sheets showing the catch of fish, by species and by localities, for the calendar year 1921. These have been compiled by species and by months, as shown in the table following the discussion.

In 1921 the catch of the fisheries amounted to 127,728,623 pounds, as compared with 212,635,075 pounds in 1920, a decrease of 84,906,452 pounds, or 39.93 per cent. Following are the principal products: Pilchards, 59,332,305 pounds; albacore and tuna, 19,831,680 pounds; flounders, 8,429,595 pounds; salmon, 7,990,932 pounds; rockfishes, 4,641,156 pounds; barracuda, 4,588,900 pounds; mackerel, 2,914,613 pounds; yellowtail, 2,139,626 pounds; white sea bass or squeteague, 2,069,544 pounds; anchovies, 1,946,881 pounds; abalones, 1,481,170 pounds; bonito or skipjack, 1,376,712 pounds; sablefish, 1,022,556 pounds; and shad, 862,897 pounds.

There was a decrease in the catch of pilchards in 1921 of 59,185,424 pounds, or 49.93 per cent, as compared with 1920. For the same period the decrease in the catch of albacore and tuna amounted to 16,312,660 pounds, or 45.13 per cent; bonito or skipjack, 7,237,869 pounds, or 84 per cent. There was an increase in the catch of anchovies of 1,376,195 pounds, or 241.15 per cent, and of sablefish of 241,524 pounds, or 30.92 per cent, as compared with 1920.

The imports of fresh fish from Mexico in 1921 amounted to 6,699,817 pounds, as compared with 8,121,225 pounds in 1920. The principal species imported were: Barracuda, 3,036,262 pounds; flounders, 1,314,918 pounds; sea crawfish or spiny lobster, 943,547 pounds; and white sea bass or squeteague, 500,075 pounds.

PRODUCTS, IN POUNDS, OF THE FISHERIES OF CALIFORNIA, 1921.

Species.	January.	February.	March.	April.	May.	June.	July.
Albacore and tuna	2,493	332	590	339	972	219,224	5,356,858
Anchovies	50,870	.....	7,755	238,152	394,240	149,052	1,016,987
Barracuda	67,680	135,161	514,378	797,412	1,154,100	781,672	436,230
Bluefish, California, or squeteague	5,259	6,006	7,030	3,265	1,813	6,094	8,394
Bonito or skipjack	12,137	23,177	6,598	104	580	12,429	38,611
Carp	9,864	27,259	28,746	11,364	3,330	3,693	2,925
Catfish	7,511	18,906	40,734	21,913	13,217	.....	.....
Croakers	335	30,535	26,457	4,663	4,420	1,140	2,084
Flounders	577,948	732,012	717,557	622,260	772,656	739,561	630,231
"Hake"	3,637	3,061	4	3,250	6,837	13,239	13,325
Hardhead	17,617	38,399	5,941	32	.....	.....	.....
Herring	190,038	233,978	45,564	5,074	120	.....	.....
Kingfish	44,744	58,389	46,707	57,104	52,533	25,538	7,217
"Lingcod"	22,246	21,478	28,610	25,302	16,895	12,355	35,760
Mackerel	223,401	205,858	361,874	81,422	309,283	221,338	189,732
Mullet	.....	.....	433	6,146	1,796	933	2,353
"Perches," surf	22,234	23,634	50,773	47,534	5,821	4,039	7,820
Pike, Sacramento	1,726	1,888	1,151	846	721	226	.....
Pilchard	2,302,314	8,706,484	9,945,896	6,014,034	250,793	935,870	990,638
Pompano, California	354	2,652	863	3,431	376	1,167	56
Rockfishes	743,743	586,409	479,778	359,367	201,826	144,502	253,305
Sablefish	28,082	52,290	73,623	163,038	189,126	93,786	94,781
Salmon	14,868	78,913	384,909	522,681	1,063,289	1,441,335	1,500,780
Sculpin	3,862	4,780	5,126	10,392	9,840	3,239	77
Sea bass, black	14,504	7,110	1,566	3,919	6,425	11,656	6,204
Sea basses or "rock bass"	5,677	8,842	18,997	35,604	33,317	54,189	62,317
Sea bass, white or squeteague	4,219	32,520	50,106	251,295	302,910	552,640	252,674
Shad	97	339	42,772	355,026	423,134	.....	272
Sharks	63,904	101,735	88,392	89,635	51,003	47,209	18,122
Sheepshead	2,095	4,167	4,049	7,107	1,960	216	85
Skates	11,164	11,003	3,428	4,565	935	3,883	2,710
"Smelt"	26,936	42,446	93,158	71,508	33,191	42,202	59,271
Split-tail	7,296	4,550	647	46	140	.....	.....
Striped bass	73,397	41,115	50,430	95,611	104,083	.....	94
Stingarees or stingrays	1,555	203	.....	.....	6,795	.....	.....
Suckers	410	1,566	85	.....	.....	.....	.....
Swordfish	.....	.....	.....	.....	.....	332	818
Tomcod	4,151	6,766	4,181	1,681	260	4,549	2,405
Whitebait	31	4	884	654	180	182	116
Whitefish	2,757	2,006	10,332	1,229	901	590	437
Yellowtail	6,781	92,635	95,292	80,130	154,303	91,003	19,827
Other fish	4,786	8,218	13,001	6,687	8,795	88,548	998,466
Crabs	74,514	95,326	65,142	43,516	77,660	28,292	21,912
Shrimps	23,284	36,186	91,384	62,930	90,648	61,685	82,561
Sea crawfish or spiny lobster	34,233	32,261	.....	.....	.....	.....	.....
Abalones	88,237	.....	163,769	120,216	165,367	135,774	220,515
Clams	40,456	43,054	48,784	47,563	49,687	51,228	43,185
Cockles	3,956	1,883	1,497	1,520	1,058	479	269
Mussels	597	100	590	60	.....	.....	.....
Oysters:							
Eastern	7,024	5,218	6,743	3,951	3,451	3,482	1,923
Native	.....	.....	.....	.....	2,926	3,614	220
Scallops	.....	300	336	210	252	273	.....
Octopus	4,471	7,236	10,372	4,959	5,050	3,349	2,147
Squid	22	251	85,538	70,838	105,955	52,846	1,426
Turtles	61	.....	.....	5	.....	.....	.....
Total	4,859,578	11,578,641	13,732,572	10,359,590	6,084,970	6,048,653	12,386,140

PRODUCTS, IN POUNDS, OF THE FISHERIES OF CALIFORNIA, 1921—Continued.

Species.	August.	September.	October.	November.	December.	Total.
Albacore and tuna	9,876,898	3,684,325	622,901	64,770	1,978	19,831,680
Anchovies	27,325	19,805	26,675	13,825	2,195	1,946,881
Barracuda	188,499	255,245	143,572	82,677	32,274	4,588,900
Bluefish, California, or squeteague	6,247	5,091	13,911	7,366	3,389	73,865
Bonito or skipjack	245,904	880,227	92,046	10,053	54,846	1,376,712
Carp	7,803	379	2,282	1,216	3,265	102,126
Catfish	291	2,283	12,734	15,620	14,907	148,116
Croakers						69,634
Flounders	925,725	729,726	750,528	587,003	644,388	8,429,595
"Hake"	3,660	13,935	13,920	4,245	11,105	90,218
Hardhead			2,106	5,559	6,157	75,811
Herring				217	67,133	542,124
Kingfish	6,801	7,392	15,437	4,560	62,968	389,390
"Lingcod"	82,340	56,960	45,249	29,212	49,136	425,543
Mackerel	296,923	241,878	263,365	202,897	316,642	2,914,613
Mullet	249		3,443	176	1,611	17,140
"Perches," surf	9,419	17,889	14,230	21,157	18,224	242,774
Pike, Sacramento	51	89	275	227	1,920	9,120
Pilchard	7,212,767	6,982,391	5,491,251	6,145,457	4,354,410	59,332,305
Pompano, California	332	579	2,786	1,404	2,333	16,333
Rockfishes	366,031	301,130	434,944	298,167	471,954	4,641,156
Sablefish	136,834	67,612	59,906	19,086	44,392	1,022,556
Salmon	1,661,519	933,198	187,959	173,785	27,696	7,990,932
Sculpin	582	3,677	7,133	7,838	1,522	58,068
Sea bass, black	5,061	4,460	4,100	4,715	17,476	87,196
Sea basses or "rock bass"	47,089	26,254	26,938	24,420	12,058	355,702
Sea bass, white or squeteague	292,128	190,182	37,413	68,799	34,658	2,069,544
Shad	16,072	1,143		17,326	6,716	862,897
Sharks	31,410	6,043	9,904	2,924	29,052	539,333
Sheepshead	173	156	122	1,029	2,766	23,925
Skates	1,218	765	1,835	3,935	14,723	60,164
"Smelt"	66,174	81,302	98,865	83,048	57,637	755,738
Split-tail				49	440	13,168
Steelhead trout			52	777	2,776	3,605
Striped bass	60,425	22,606		64,499	89,356	601,616
Stingarees or stingrays					1,215	9,768
Suckers			313	1,000	784	4,158
Swordfish	8,576	4,344	733			14,803
Tomcod	4,715	4,864	6,338	438	1,431	41,779
Whitebait	751	592	1,602		233	5,229
Whitefish	805	1,313	1,868	3,029	3,372	28,639
Yellowtail	196,451	532,941	549,530	255,776	64,957	2,139,626
Other fish	25,059	8,687	26,585	7,582	43,299	1,239,713
Crabs				96,580	231,264	734,206
Shrimps	87,162	122,866	81,415	110,919	58,794	909,834
Sea crawfish or spiny lobster			84,353	117,433	65,991	334,271
Abalones	155,787	162,553	77,811	147,245	43,896	1,481,170
Clams	38,393	36,488	31,737	32,925	32,439	495,939
Cockles	677	938	316	1,528	383	14,504
Mussels	1,033	1,941	1,427	936	1,527	8,211
Oysters:						
Eastern	3,976	4,527	6,314	6,639	7,789	61,037
Native						6,760
Scallops						1,371
Octopus	1,641	2,361	2,859	4,679	7,142	56,266
Squid	31,217	1,205	6	7,107	76,147	432,558
Turtles			160	75		301
Total	22,132,193	15,422,342	9,259,249	8,761,929	7,102,766	127,728,623

MEXICAN FISHERY PRODUCTS, IN POUNDS, IMPORTED INTO CALIFORNIA, 1921.

Species.	January.	February	March.	April.	May.	June.	July.
Barracuda	559,264	665,346	533,311	12,511	.....	22,844	2,265
Bonito or skipjack	13,358	8,825	404	.....	.....	555	1,035
Croakers	.....	125	170	.....	.....	.....	.....
Flounders	57,270	119,978	59,185	34,205	79,608	28,847	110,139
Kingfish	315	.....	.....	.....	.....	425	.....
Mackerel	4,245	24,579	860	1,888	.....	65	743
Mullet	6,475	1,195	.....	.....	.....	.....	.....
"Perches," surf	.....	3,493	405	.....	.....	.....	.....
Pompano, California	.....	305	.....	.....	.....	.....	.....
Rockfishes	11,675	75	1,860	.....	50	12,937	2,010
Sculpin	312	.....	.....	.....	.....	.....	.....
Sea basses or "rock bass"	2,550	430	115	.....	1,020	775	125
Sea bass, black	9,943	10,585	1,034	.....	100	1,607	2,521
Sea bass, white or squeteague	5,775	16,787	69,445	1,189	6,407	2,853	20,618
"Smelt"	105	390	112	240	.....	.....	170
Tuna	682	.....	.....	59,835	32,169	16,380	1,121
Whitefish	600	.....	.....	.....	.....	.....	.....
Yellowtail	3,215	82,210	15,369	164	75	7,530	975
Other fish	.....	200	.....	.....	.....	.....	.....
Sea crawfish or spiny lobster	100,363	100,424	182,492	169,690	148,766	.....	.....
Abalones	.....	1,190	6,904	.....	.....	.....	.....
Turtles	145	.....	.....	675	.....	1,015	.....
Total	776,292	1,036,137	871,666	280,397	268,195	95,833	141,722

Species.	August.	September.	October.	November.	December.	Total.
Barracuda	25,365	56,339	327,249	548,693	283,075	3,036,262
Bonito or skipjack	1,470	435	6,640	12,088	38,208	83,018
Croakers	.....	.....	.....	.....	.....	295
Flounders	300,587	149,862	148,414	177,059	49,764	1,314,918
Kingfish	50	.....	455	.....	450	1,695
Mackerel	276	175	15,425	8,300	4,090	60,646
Mullet	.....	.....	.....	4,040	.....	11,710
"Perches," surf	.....	.....	105	275	5,377	9,655
Pike, Sacramento	.....	.....	875	.....	.....	875
Pompano, California	65	.....	.....	.....	.....	370
Rockfishes	1,570	195	7,780	2,085	6,486	46,723
Sculpin	.....	.....	.....	.....	.....	312
Sea basses or "rock bass"	10	565	.....	400	2,164	8,154
Sea bass, black	697	260	4,288	6,875	2,325	40,235
Sea bass, white or squeteague	103,032	68,773	58,103	142,918	4,175	500,075
"Smelt"	517	497	3,644	430	3,230	9,335
Tuna	5,966	3,850	10,410	195	136,548	267,156
Whitefish	.....	.....	.....	.....	200	800
Yellowtail	9,815	20,112	20,668	46,580	144,457	351,170
Other fish	.....	.....	.....	150	2,117	2,467
Shrimps	.....	.....	.....	30	.....	30
Sea crawfish or spiny lobster	.....	.....	45,465	118,759	77,588	943,547
Abalones	.....	.....	.....	.....	.....	8,094
Turtles	.....	.....	.....	440	.....	2,275
Total	449,420	301,063	649,521	1,069,317	760,254	6,699,817

FISHERIES OF MARYLAND AND VIRGINIA IN 1920.

The fisheries statistics contained in this report are based on a regular canvass of the fisheries of the States of Maryland and Virginia for the calendar year 1920.[7] The statistics of the oyster industry, however, represent the oyster season of 1920–21. This report also includes the number, quantity, and value of the catch of shad and alewives in the fishing season of 1921 for the two States. The statistics of the shad and alewife fishery of the Potomac River, following the practice of making an annual canvass of this fishery beginning with 1919, and brief history of the shad fishery of the Potomac River are given on pages 66 to 70.

[7] This canvass was made by Winthrop A. Roberts, Rob Leon Greer, Andrew J. Messner, and Fred F. Johnson.

EARLIER PUBLICATIONS.

Some of the earlier publications relating to the fisheries of Maryland and Virginia and published in Washington, D. C., follow:

1887. Maryland and Its Fisheries. By R. Edward Earll. *In* The Fisheries and Fishery Industries of the United States, by G. Brown Goode et al., Sec. II, Pt. X, p. 421–448.
Virginia and Its Fisheries. By Marshall McDonald. *Ibid.*, Sec. II, Pt. XI, p. 449–473.
History and Methods of the Fisheries. *Ibid.*, Sec. V, Vol. I (xi+808 p.) and Vol. II (xx+881 p. and atlas of 275 pls.).
1892. IV. Fisheries of the Middle Atlantic States [1887 and 1888]. *In* Statistical Review of the Coast Fisheries of the United States, prepared under the direction of J. W. Collins. Report, U. S. Commission of Fish and Fisheries, 1888 (1892), p. 323–351.
1894. The Oyster Industry of Maryland. By Charles H. Stevenson. Bulletin, U. S. Fish Commission, Vol. XII, 1892 (1894), p. 203–297.
1895. A Statistical Report on the Fisheries of the Middle Atlantic States. By Hugh M. Smith. Bulletin, U. S. Fish Commission, Vol. XIV, 1894 (1895), p. 339–467.
1899. The Shad Fisheries of the Atlantic Coast of the United States. By Charles H. Stevenson. Appendix, Report of the Commissioner, U. S. Commission of Fish and Fisheries, for 1898 (1899), p. 101–269.
Notes on the Extent and Condition of the Alewife Fisheries of the United States in 1896. By Hugh M. Smith. *Ibid.*, p. 31–43.
1901. Statistics of the Fisheries of the Middle Atlantic States [1897]. By C. H. Townsend. Appendix, Report of the Commissioner, U. S. Commission of Fish and Fisheries, for 1900 (1901), p. 195–310.
1904. Statistics of the Fisheries of the Middle Atlantic States [1901]. By Barton W. Evermann. Appendix, Report of the Commissioner, U. S. Commission of Fish and Fisheries, for 1902 (1904), p. 433–540.
1905. The Crab Industry of Maryland. By Winthrop A. Roberts. *In* Report of the Commissioner, U. S. Bureau of Fisheries, for 1904 (1905), p. 415–432.
1907. Statistics of the Fisheries of the Middle Atlantic States for 1904. *In* Report of the U. S. Commissioner of Fisheries for 1905 (1907), 122 p.
1911. Fisheries of the United States, 1908. Special Reports, Bureau of the Census.
1911. Shad and Alewife Fisheries [1909]. *In* Report of the U. S. Commissioner of Fisheries for 1910 (1911), p. 27–28.
1914. Oyster Industry [1912]. *In* Report of the U. S. Commissioner of Fisheries for 1913 (1914), p. 40–49.
1915. The Menhaden Industry of the Atlantic Coast. By Rob Leon Greer. Appendix III, Report of the U. S. Commissioner of Fisheries for 1914 (1915), 27 p., 7 pl.
1917. Crab Industry of Maryland and Virginia [1915]. *In* Report of the U. S. Commissioner of Fisheries for 1916 (1917), p. 60–64.
Shad and Alewife Industry of Chesapeake Bay and Tributaries [1915]. *Ibid.*, p. 65–72.
1919. Crab Industry of Chesapeake Bay. By E. P. Churchill, jr. Appendix IV, Report of the U. S. Commissioner of Fisheries for 1918 (1920), 25 p., XII pls.
1920. The Oyster and the Oyster Industry of the Atlantic and Gulf Coasts. By E. P. Churchill, jr. Appendix VIII, Report of the U. S. Commissioner of Fisheries for 1919 (1921), 51 p., XXIX pls., 5 figs.

COMMON AND SCIENTIFIC NAMES OF FISHES.

Following is a list of the common and scientific names of the fishes of Maryland and Virginia to which reference is made in this report:

Alewives	*Pomolobus æstivalis.*
	Pomolobus pseudoharengus.
Black Bass	*Micropterus salmoides.*
	Micropterus dolomieu.
Black drum	*Pogonias cromis.*
Bluefish	*Pomatomus saltatrix.*
Bonito	*Sarda sarda.*

Butterfish	*Poronotus triacanthus.*
Carp	*Cyprinus carpio.*
Catfish	Siluridæ (species).
Crevallé (including blue runner)	Caranx (species).
Croaker	*Micropogon undulatus.*
Eels	*Anguilla rostrata.*
Flounders	*Paralichthys dentatus.* Pleuronectidæ (species).
Gizzard shad	*Dorosoma cepedianum.*
Goldfish	*Carassius auratus.*
Hickory shad	*Pomolobus mediocris.*
King whiting	Menticirrhus (species).
Mackerel	*Scomber scombrus.*
Menhaden	*Brevoortia tyrannus.*
Mullet	*Mugil cephalus.* *Mugil curema.*
Ocean sunfish	*Mola mola.*
Perch, white	*Morone americana.*
Perch, yellow	*Perca flavescens.*
Pigfish	*Orthopristis chrysopterus.*
Pike or pickerel	Esox (species).
Pompano	Trachinotus (species).
Redfish or red drum	*Sciaenops ocellatus.*
Scup	*Stenotomus chrysops.*
Sea bass	*Centropristes striatus.*
Shad	*Alosa sapidissima.*
Sheepshead	*Archosargus probatocephalus.*
Spanish mackerel	*Scomberomorus maculatus.*
Spot	*Leiostomus xanthurus.*
Squeteagues or "sea trout"	*Cynoscion regalis.* *Cynoscion nebulosus.*
Striped bass	*Roccus lineatus.*
Sturgeon	*Acipenser sturio.*
Suckers	Castostomidæ (species).
Sunfish	Centrarchidæ (species).
Whiting	*Merluccius bilinearis.*
Yellowtail or "silver perch"	*Bairdiella chrysura.*

GENERAL STATISTICS.

The number of persons engaged in the fisheries, the investment, and the quantity and value of the products of the fisheries of Maryland and Virginia in 1920 are shown in the table which follows.

In 1920 the total number of persons engaged in these States was 40,761 as compared with 59,205 in 1904, a decrease of 18,444, or 31.15 per cent. The total investment was $18,275,933 as compared with $10,598,399 in 1904, an increase of $7,677,534, or 72.44 per cent. The products of the fisheries amounted to 530,749,884 pounds as compared with 426,311,000 pounds in 1908, an increase of 104,438,884 pounds, or 24.49 per cent, and 436,444,664 pounds in 1904, an increase of 94,305,220 pounds, or 21.60 per cent. The value of the products in 1920 was $12,740,392 as compared with $8,022,000 in 1908, an increase of $4,718,392, or 58.81 per cent, and $8,380,845 in 1904, an increase of $4,359,547, or 52.01 per cent.

Fisheries of Maryland and Virginia, 1920.

Items.	Maryland.		Virginia.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	1,947		1,995	
On vessels transporting	733		563	
In shore fisheries	9,859		11,612	
Shoresmen	8,844		5,208	
Total	21,383		19,378	
INVESTMENT.				
Vessels, fishing, steam			45	$2,232,025
Tonnage			4,718	
Outfit				486,561
Vessels, fishing, gasoline	14	$11,050	81	456,975
Tonnage	197		1,150	
Outfit		2,860		108,523
Vessels, fishing, sail	402	451,385	44	29,350
Tonnage	4,133		354	
Outfit		95,817		14,572
Vessels, transporting, gasoline	124	231,200	222	375,450
Tonnage	1,479		2,125	
Outfit		44,562		80,752
Vessels, transporting, sail	184	352,275	56	128,900
Tonnage	5,131		1,536	
Outfit		41,348		13,660
Boats, sail, row, etc	3,264	197,508	5,476	194,136
Boats, power	3,128	958,598	3,404	994,000
Apparatus, vessel fisheries:				
Purse seines	3	900	50	121,800
Haul seines			1	150
Crab scrapes	91	636	24	172
Crab dredges			62	2,450
Oyster dredges	856	19,728	201	4,470
Tongs	28	382	22	276
Apparatus, shore fisheries:				
Purse seines	1	200		
Haul seines	218	24,836	196	41,505
Gill nets	4,247	86,176	15,152	98,108
Pound nets and weirs	1,072	390,285	1,882	895,762
Trammel nets	5	533		
Fyke nets	3,868	29,827	1,301	24,092
Bow nets	37	346		
Dip nets	1,305	1,389	867	560
Stop nets	2	125	4	120
Otter trawls	1	95	1	125
Lines, hand and trot		9,399		8,847
Slat traps or baskets	1	100	40	600
Eel pots	4,226	4,128	562	1,132
Eel spears	9	21	2	10
Crab traps			13	18
Crab scrapes	1,396	9,774	531	3,784
Crab dredges			56	1,056
Oyster dredges	547	13,067	217	3,610
Scallop dredges			304	2,244
Tongs, nippers, rakes, and hoes	6,006	44,628	5,421	45,000
Shore and accessory property		3,589,956		3,561,449
Cash capital		953,300		777,255
Total		7,566,434		10,709,499
PRODUCTS.				
Alewives, fresh	5,647,388	114,470	16,635,100	258,358
Alewives, salted	1,426,300	62,770	30,000	900
Black bass	77,388	18,969	342,500	44,525
Black drum	700	8	59,980	792
Bluefish	73,595	16,764	178,475	27,211
Bonito	46,420	2,785	183,535	13,358
Butterfish	875,827	24,302	3,018,842	136,894
Carp	329,450	22,925	282,695	20,559
Catfish	471,207	29,367	826,485	48,383
Crevelle	3,200	96	760,448	24,378
Croaker	2,519,770	66,576	16,372,134	513,975
Eels, fresh	170,118	18,936	121,800	12,559
Eels, salted	31,450	3,145		
Flounders	287,765	15,078	313,584	15,715
Gizzard shad	30,067	913	139,355	4,723
Goldfish	500	38	4,050	380
Hickory shad	2,100	95	163,950	6,047
King whiting	9,190	1,741	40,222	3,411
Mackerel			70,677	8,473
Menhaden	7,500	30	366,379,425	2,158,518

FISHERIES OF MARYLAND AND VIRGINIA, 1920—Continued.

Items.	Maryland.		Virginia.	
PRODUCTS—continued.	*Number.*	*Value.*	*Number.*	*Value.*
Mullet	101,357	$5,162	458,158	$17,417
Ocean sunfish			100	20
Perch, white	321,739	32,991	648,165	46,638
Perch, yellow	310,398	31,452	117,755	10,547
Pigfish			69,300	3,523
Pike or pickerel	64,458	13,688	80,860	8,081
Pompano	734	147	6,930	1,430
Redfish or red drum	41,535	627	117,550	3,753
Scup	101,980	2,611	35,140	2,418
Sea bass	42,980	3,447	18,975	1,427
Shad	1,867,196	355,217	7,293,805	1,145,106
Sheepshead	51	8	2,155	263
Spanish mackerel	8,477	1,282	33,839	5,039
Spot	364,759	6,829	967,296	67,270
Squeteagues or "sea trout":				
Fresh	2,274,490	91,514	12,908,502	654,521
Salted	7,000	770		
Striped bass	1,040,274	193,295	379,568	68,858
Sturgeon	21,411	5,551	78,388	14,368
Sturgeon caviar	2,784	8,750	5,172	16,038
Sturgeon roe			101	150
Suckers	2,000	160	2,800	85
Sunfish	5,300	70		
Whiting	11,730	234		
Yellowtail or "silver perch"	400	40	3,350	126
Crabs, hard	[1] 5,165,703	248,160	[2] 12,465,342	401,295
Crabs, soft	[3] 3,897,271	494,784	[4] 1,171,737	164,269
Squid	468	29	42,150	1,475
Clams, hard	[5] 30,200	10,575	[6] 499,440	229,645
Oysters, market, public	[7] 29,953,581	2,111,345	[8] 10,757,488	993,548
Oysters, market, private	[9] 1,878,716	179,775	[10] 11,823,420	1,174,375
Oysters, seed, public			[11] 5,008,150	178,038
Oysters, seed, private			[12] 155,925	3,200
Scallops			[13] 113,760	26,852
Terrapin	823	1,000	248	360
Turtles	3,045	147	18,680	1,165
Frogs			480	120
Calabomba			900	90
Alewife scales			10,203	1,055
Total	59,530,795	4,198,668	471,219,089	8,541,724

[1] 15,497,109 in number.
[2] 37,396,026 in number.
[3] 11,691,813 in number.
[4] 3,515,211 in number.
[5] 3,775 bushels.
[6] 62,430 bushels.
[7] 4,279,083 bushels.
[8] 1,536,784 bushels.
[9] 268,388 bushels.
[10] 1,689,060 bushels.
[11] 715,450 bushels.
[12] 22,275 bushels.
[13] 18,960 bushels.

CRAB FISHERY OF MARYLAND AND VIRGINIA.

The decline of the crab fishery of Maryland and Virginia in recent years has been so rapid as to alarm those interested in its perpetuation, also to develop considerable interest as to the relative destructiveness of the various forms of apparatus of capture and the regulatory measures necessary to restore the fishery to its former magnitude.

At a conference at the Department of Commerce in Washington, D. C., on July 13, 1921, attended by the Commissioner of Fisheries of Virginia, the chairman of the Conservation Commission of Maryland, the Secretary and Assistant Secretary of Commerce, representatives of the Bureau of Fisheries, and others, the State authorities agreed to seek concurrent legislation upon the following: (1) That it be unlawful to take or have in possession a "sponge" bearing crab at any time of the year; (2) that it be unlawful to take crabs by the use of a trot line between December 1 and March 31, inclusive, and that the dredging of crabs be allowed only from December 1 to March 1, inclusive; (3) that the minimum size for a peeler crab be established at 3 inches from tip to tip of spine and for a soft crab at 3½ inches.

The crab product of Maryland and Virginia in 1920, by counties and for various years from 1880 to 1920, are shown in the tables which follow, and the quantities of hard and soft crabs, by States in various years, are shown in graphic form in Figure 7. The total catch in these States in 1920 was 22,700,053 pounds as compared

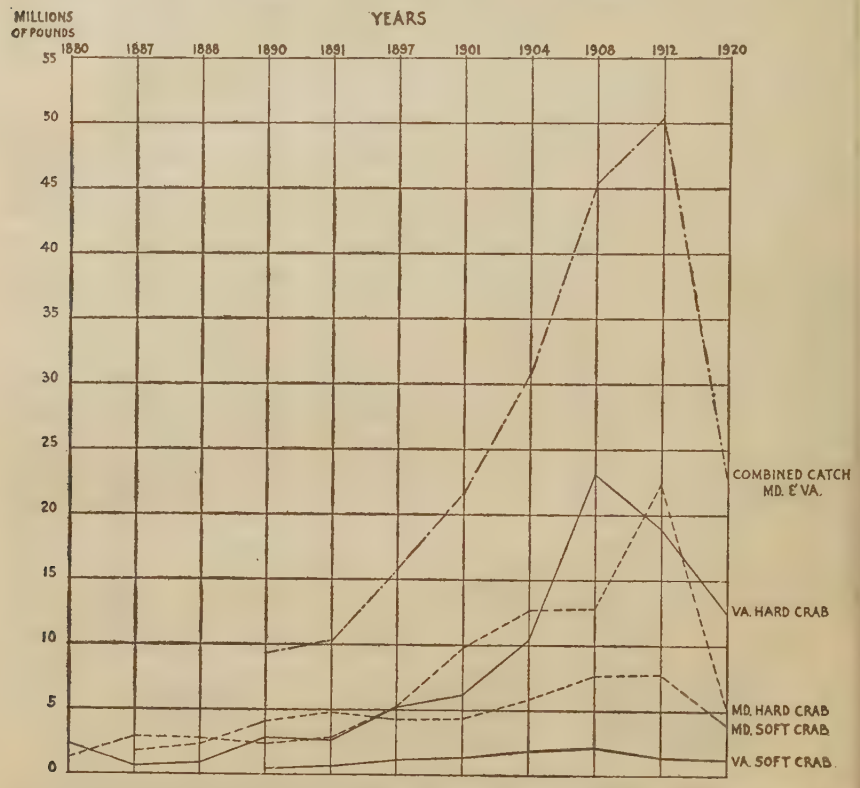

FIG. 7.—Crab product of Maryland and Virginia in millions of pounds, for various years, 1880 to 1920.

with 50,343,268 pounds in 1915, a decrease of 27,643,215 pounds, or 54.90 per cent. The decrease in Maryland in 1920 as compared with 1915 was 21,030,908 pounds, or 69.88 per cent, and in Virginia, 6,612,307 pounds, or 32.65 per cent.

HARD AND SOFT CRAB INDUSTRY OF MARYLAND AND VIRGINIA IN 1920, BY COUNTIES.

States and counties.	Crabs, hard.		Crabs, soft.		Total.	
Maryland:	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Anne Arundel	761,195	$31,070	100,812	$28,160	862,007	$59,230
Baltimore	77,730	4,105	7,270	3,225	85,000	7,330
Calvert	73,125	2,800	32,058	7,095	105,183	9,895
Charles	137,575	4,815			137,575	4,815
Dorchester	1,140,182	70,988	215,791	26,403	1,355,973	97,391
Harford	6,000	300			6,000	300
Kent	440,000	19,225			440,000	19,225
Queen Annes	143,125	4,660			143,125	4,660
St. Marys	217,000	7,280	105,425	18,495	322,425	25,775
Somerset	764,229	55,764	3,435,915	411,406	4,200,144	467,170
Talbot	1,273,375	42,823			1,273,375	42,823
Wicomico	36,167	2,170			36,167	2,170
Worcester	96,000	2,160			96,000	2,160
Total	5,165,703	248,160	3,897,271	494,784	9,062,974	742,944
Virginia:						
Accomac	776,475	32,616	944,807	120,688	1,721,282	153,304
Elizabeth City	2,038,900	67,759			2,038,900	67,759
Gloucester	962,666	25,980			962,666	25,980
Isle of Wight	6,250	200			6,250	200
King George	64,375	2,060			64,375	2,060
King and Queen	56,250	1,350			56,250	1,350
King William	18,750	450			18,750	450
Lancaster	211,900	6,357	45,760	8,081	257,660	14,438
Mathews	926,200	28,138			926,200	28,138
Middlesex	622,700	18,681			622,700	18,681
Nansemond	200	75			200	75
Norfolk	1,206,075	41,951			1,206,075	41,951
Northampton	664,151	22,120	19,862	3,125	684,013	25,245
Northumberland	545,065	20,068	144,748	30,625	689,813	50,693
Princess Anne	900,000	21,600			900,000	21,600
Stafford	18,335	1,600			18,335	1,600
Westmoreland	255,000	7,655	560	150	255,560	7,805
York	3,192,050	102,635	16,000	1,600	3,208,050	104,235
Total	12,465,342	401,295	1,171,737	164,269	13,637,079	565,564
Grand total	17,631,045	649,455	5,069,008	659,053	22,700,053	1,308,508

COMPARATIVE STATISTICS OF THE CRAB PRODUCT OF MARYLAND AND VIRGINIA, VARIOUS YEARS, 1880 TO 1920.

Years.	Maryland.					
	Crabs, hard.		Crabs, soft.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
1880	1,166,667	$46,850	(1)	(1)		
1887	2,757,638	36,969	1,636,530	$133,788	4,394,168	$170,757
1888	2,674,675	37,438	2,208,829	161,331	4,883,504	198,769
1890	2,388,099	31,723	4,056,110	228,690	6,444,209	260,413
1891	2,776,898	37,460	4,828,872	266,256	7,605,770	303,716
1897	5,333,316	39,949	4,115,879	177,637	9,449,195	217,586
1901	9,824,793	85,884	4,303,582	202,563	14,128,375	288,447
1904	12,665,282	168,996	5,732,865	189,851	18,398,147	358,847
1908	12,786,000	124,000	7,587,000	195,000	20,373,000	319,000
1915	22,491,675	335,375	7,602,207	329,276	30,093,882	664,651
1920	5,165,703	248,160	3,897,271	494,784	9,062,974	742,944

Years.	Virginia.						Grand total.	
	Crabs, hard.		Crabs, soft.		Total.			
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
1880	2,139,200	$32,088	(1)	(1)				
1887	626,820	15,479	(1)	(1)				
1888	956,843	24,669	(1)	(1)				
1890	2,584,794	28,210	440,310	$26,054	3,025,104	$54,264	9,469,313	$314,677
1891	2,208,071	32,683	585,956	29,379	2,794,027	62,062	10,399,797	365,778
1897	5,331,398	28,331	1,068,116	39,914	6,399,514	68,245	15,848,709	285,831
1901	6,113,277	52,863	1,288,424	65,972	7,401,701	118,835	21,530,076	407,282
1904	10,356,052	179,575	1,910,654	92,909	12,266,706	272,484	30,664,853	631,331
1908	23,001,000	239,000	2,082,000	87,000	25,083,000	326,000	45,456,000	645,000
1915	18,765,148	242,754	1,484,238	74,402	20,249,386	317,156	50,343,268	981,807
1920	12,465,342	401,295	1,171,737	164,269	13,637,079	565,564	22,700,053	1,308,508

1 Statistics not available.

SHAD AND ALEWIFE FISHERIES OF MARYLAND AND VIRGINIA.

The perpetuation of these important fisheries is a subject of special concern to the States of Maryland and Virginia. As the fisheries are conducted at the same seasons with the same apparatus and present like problems, association of statistical tables and discussions regarding them is a matter of convenience. In making the canvass it was found practicable to obtain statistics of the catch for 1921 in addition to the detailed statistics for 1920.

In 1920 the catch of shad in Maryland was 1,867,196 pounds, valued at $355,217, and in Virginia 7,293,805 pounds, valued at $1,145,106, a total of 9,161,001 pounds, valued at $1,500,323. In 1921 the catch in Maryland was 1,807,074 pounds, valued at $347,396, and in Virginia 6,936,001 pounds, valued at $1,204,595, a total of 8,743,075 pounds, valued at $1,551,991.

Compared with 1915 there was an increase of 412,661 pounds, or 28.37 per cent, in the catch of shad in Maryland in 1920 and of 352,539 pounds, or 24.23 per cent, in 1921. The increase in Virginia in 1920 as compared with 1915 was 2,579,671 pounds, or 54.72 per cent, and in 1921, 2,221,867 pounds, or 47.13 per cent.

The catch of alewives in 1920 in Maryland amounted to 7,071,688 pounds, valued at $177,190, and in Virginia to 16,665,100 pounds, valued at $259,258, a total of 23,736,788 pounds, valued at $436,448. In 1921 the catch in Maryland amounted to 6,504,845 pounds, valued at $144,584, and in Virginia to 18,834,164 pounds, valued at $245,945, a total of 25,339,009 pounds, valued at $390,529.

In 1920 there was a decrease in the catch of alewives in Maryland amounting to 5,495,892 pounds, or 43.73 per cent, as compared with 1915. There was a further decrease in 1921 amounting to 6,062,735 pounds, or 48.24 per cent, as compared with 1915. In comparison with 1915 the catch of alewives in Virginia shows an increase in 1920 and 1921, amounting to 610,970 pounds, or 3.80 per cent, in 1920, and 2,780,034 pounds, or 17.31 per cent, in 1921.

Comparative statistics of these fisheries for various years, the catch in Chesapeake Bay and its tributaries, and the number and value of shad, by counties, are shown in the tables which follow. The catch of the Potomac River is shown in detail on pages 66 to 67

COMPARATIVE STATISTICS OF THE SHAD AND ALEWIFE PRODUCT OF MARYLAND AND VIRGINIA, VARIOUS YEARS, 1880 TO 1921.[1]

Years.	Maryland.					Virginia.	
	Shad.		Alewives.		Total.	Shad.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Value.*	*Pounds.*	*Value.*
1880	3,774,426	$140,926	9,203,959	$139,667	$280,593	3,171,953	$134,496
1887	4,040,820	146,951	11,062,270	89,273	236,234	3,815,126	172,272
1888	4,868,435	176,655	11,511,774	110,291	286,946	7,056,473	321,634
1890	7,127,486	242,909	19,766,994	143,793	386,702	7,266,207	228,897
1891	6,224,873	211,575	17,418,850	131,245	342,820	6,498,242	207,394
1896	5,541,499	166,551	17,667,315	126,050	292,601	11,170,519	307,055
1897	5,799,563	159,365	17,139,459	123,453	282,818	11,529,474	304,448
1901	3,111,181	120,602	13,747,157	91,308	211,910	6,972,212	366,203
1904	2,912,249	159,772	14,484,970	137,982	297,754	7,419,899	439,625
1908	3,937,000	247,000	28,805,000	157,000	404,000	7,314,000	486,000
1909	3,252,688	272,869	23,637,320	155,499	428,368	6,030,200	488,336
1915	1,454,535	191,517	12,567,580	131,779	323,296	4,714,134	658,010
1920	1,867,196	355,217	7,071,688	177,190	532,407	7,293,805	1,145,106
1921	1,807,074	347,396	6,504,845	144,584	491,980	6,936,001	1,204,595

[1] The catch of shad and alewives in these States outside of the Chesapeake Bay region is included for some years, but is practically negligible.

COMPARATIVE STATISTICS OF THE SHAD AND ALEWIFE PRODUCT OF MARYLAND AND VIRGINIA, VARIOUS YEARS, 1880 TO 1921—Continued.

Years.	Virginia.			Grand total.			
	Alewives.		Total.	Shad.		Alewives.	
	Pounds.	*Value.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
1880	6,925,413	$76,300	$210,796	6,946,379	$275,422	16,129,372	$215,967
1887	4,401,635	29,585	201,857	7,855,946	319,223	15,463,905	118,858
1888	6,453,005	40,369	362,003	11,924,908	498,289	17,964,779	150,660
1890	10,641,698	91,674	320,571	14,393,693	471,806	30,408,692	235,467
1891	11,013,485	93,905	301,299	12,723,115	418,969	28,432,335	225,150
1896	12,197,607	63,024	370,079	16,712,018	473,606	29,864,922	189,074
1897	13,689,510	70,841	375,289	17,329,037	463,813	30,828,969	194,294
1901	13,913,444	115,424	481,627	10,083,393	486,805	27,660,601	206,732
1904	14,603,866	90,733	530,358	10,332,148	599,397	29,088,836	228,715
1908	37,885,000	171,000	657,000	11,251,000	733,000	66,690,000	328,000
1909	27,787,980	128,375	616,711	9,282,888	761,205	51,425,300	283,874
1915	16,051,130	165,950	823,960	6,168,669	849,527	28,621,710	297,729
1920	16,665,100	259,258	1,404,364	9,161,001	1,500,323	23,736,788	436,448
1921	18,834,164	245,945	1,445,539	8,743,075	1,551,991	25,339,009	390,529

CATCH OF SHAD AND ALEWIVES IN CHESAPEAKE BAY AND ITS SEVERAL TRIBUTARIES IN 1920 AND 1921.

Waters.	Shad.				Alewives.			
	1920		1921		1920		1921	
	Number.	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
Chesapeake Bay:								
Virginia	1,056,736	$509,935	1,066,227	$623,969	17,401,503	$98,019	17,384,450	$87,275
Maryland	370,099	202,078	405,789	239,223	11,456,400	98,223	10,521,345	79,055
Total	1,426,835	712,013	1,472,016	863,192	28,857,903	196,242	27,905,795	166,330
James River and tributaries	326,720	210,684	276,808	168,325	4,791,563	43,139	3,986,500	34,615
York River and tributaries	75,839	49,734	74,581	48,755	5,000	50	5,000	50
Rappahannock River	71,133	29,564	71,428	43,002	1,954,230	17,943	2,377,450	18,666
Potomac River:								
Virginia	448,414	278,501	356,191	182,179	7,681,561	41,197	8,908,510	35,031
Maryland	80,944	55,963	49,681	25,191	1,077,775	13,940	1,395,000	9,010
Total	529,358	334,464	405,872	207,370	8,759,336	55,137	10,303,510	44,041
Patuxent River	8,292	6,955	3,661	2,777	48,100	534	69,975	1,022
Middle River					6,143	76	7,788	44
Gunpowder River					12,288	151	15,575	91
Bird River					18,431	226	23,362	136
Bush River	205	98	600	350	205,000	1,735	135,000	925
Susquehanna River (Md.)[1]	15,020	7,338	10,775	6,520	2,105,700	31,146	1,908,770	28,155
Elk River	2,150	1,002	1,300	780	542,700	5,564	509,700	5,097
Bohemia River					92,500	1,053	57,500	575
Chester River	150	72	750	370	124,300	893	214,500	2,442
Choptank River	46,304	19,205	47,834	19,637	324,837	1,965	303,150	1,561
Tuckahoe Creek	980	644	811	532	3,000	16	3,375	18
Little Choptank River	3,849	2,266	4,700	2,716	66,955	217	49,200	158
Fishing Bay	18,882	8,502	19,507	8,788	113,950	680	100,738	526
Blackwater River	7,224	4,200	4,330	2,375	138,800	967	239,400	1,434
Transquaking River	2,066	1,171	2,328	1,301	72,875	576	104,375	794
Chicamicomico River	47	31	39	27	22,375	90	20,000	80
Nanticoke River (Md.)[2]	16,675	11,111	17,080	11,395	196,550	1,719	191,125	1,392
Wicomico River	12,351	9,775	12,676	9,666	157,087	1,035	145,837	941
Manokin River	956	432	991	449				
Pocomoke River (Md.)[3]	17,131	9,188	15,474	7,920	156,692	2,109	138,340	1,519
Tangier Sound:								
Virginia	27,570	13,722	22,412	11,205	257,328	1,930	233,280	1,862
Maryland	4,000	2,141	3,685	1,936	198,535	1,520	216,833	1,662
Total	31,570	15,863	26,097	13,141	455,863	3,450	450,113	3,524

[1] There was no commercial fishing in the Susquehanna River in Pennsylvania in 1920 and 1921.
[2] No canvass of the fisheries of Nanticoke River in Delaware was made for 1920 or 1921.
[3] There was no commercial fishing for shad and alewives in the Pocomoke River in Virginia in 1920 and 1921.

CATCH OF SHAD AND ALEWIVES IN CHESAPEAKE BAY AND ITS SEVERAL TRIBUTARIES IN 1920 AND 1921—Continued.

Waters.	Shad.				Alewives.			
	1920		1921		1920		1921	
Pocomoke Sound:	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
Virginia	57,339	$30,166	45,450	$23,637	496,853	$3,825	436,520	$3,476
Maryland	1,447	963	1,456	955	19,538	117	18,175	109
Total	58,786	31,129	46,906	24,592	516,391	3,942	454,895	3,585
Grand total	2,672,523	1,465,441	2,516,564	1,443,980	[4] 49,748,569	370,655	[5] 49,720,973	317,721

[4] Includes 4,504,750 alewives salted by the fishermen, valued at $63,670.
[5] Includes 4,597,450 alewives salted by the fishermen, valued at $59,951.

NUMBER AND VALUE OF SHAD TAKEN IN EACH COUNTY OF MARYLAND AND VIRGINIA IN 1920 AND 1921.

Counties.	1920		1921	
Maryland:	*Number.*	*Value.*	*Number.*	*Value.*
Anne Arundel	11,895	$8,642	18,335	$9,755
Baltimore	40	30	150	105
Calvert	26,623	13,576	38,435	14,085
Caroline	5,710	3,714	5,901	3,828
Cecil	60,024	28,097	54,153	32,717
Charles	57,725	39,227	38,958	18,930
Dorchester	103,955	60,220	84,694	44,541
Harford	22,847	10,606	21,060	12,476
Kent	109,410	59,319	121,100	77,977
Prince Georges	26,329	19,435	6,773	3,877
Queen Annes	430	299	1,250	780
St. Marys	28,450	14,141	22,990	13,808
Somerset	12,845	6,939	12,643	6,791
Talbot	98,271	60,452	128,380	79,195
Wicomico	26,876	19,413	27,763	19,558
Worcester	18,029	11,107	16,072	8,973
Total	[1] 609,459	355,217	[2] 598,637	347,396
Virginia:				
Accomac	150,649	77,172	99,560	51,466
Arlington	26,740	15,288	37,158	22,895
Caroline	2,195	989	710	406
Charles City	79,000	56,770	63,000	40,458
Chesterfield [3]	10,000	6,900	7,250	5,001
Elizabeth City	113,500	54,210	139,000	83,300
Dinwiddie	4,000	2,760	2,100	1,452
Essex	2,950	1,328	595	357
Fairfax	31,209	19,150	26,030	13,433
Gloucester	67,073	31,568	52,208	32,071
Isle of Wight	57,445	41,325	40,619	29,128
James City	36,750	22,208	33,460	18,449
King George	18,970	10,886	11,418	6,884
King and Queen	49,807	32,941	43,850	28,371
King William	11,992	7,466	14,051	9,244
Lancaster	171,553	82,019	173,884	99,443
Mathews	637,425	305,916	653,245	392,256
Middlesex	6,444	2,900	8,833	4,625
Nansemond	19,975	14,275	10,395	7,444
New Kent	63,890	32,322	72,480	36,806
Norfolk	19,395	6,747	37,879	25,553
Northampton	3,957	2,258	2,098	1,390
Northumberland	452,659	218,070	414,729	206,626
Princess Anne	7,691	5,025	6,944	3,800
Prince George	26,000	18,480	20,000	13,800
Prince William	26,890	17,176	16,870	9,201
Richmond	15,119	7,009	14,165	8,499
Spotsylvania	3,345	2,075	2,806	1,375
Stafford	13,065	7,163	7,175	4,105
Surry	13,050	8,127	12,915	7,619
Warwick	21,450	11,936	19,270	12,218
Westmoreland	8,335	4,767	11,733	5,520
York	37,250	17,880	38,300	21,400
Total	[4] 2,209,773	1,145,106	[5] 2,094,730	1,204,595

[1] 1,867,196 pounds.
[2] 1,807,074 pounds.
[3] The shad catch for Chesterfield County in 1921 was inadvertently omitted from Statistical Bulletin No. 520 for Maryland and Virginia. The correct catch for Virginia on the bulletin should be 6,936,001 pounds, valued at $1,204,595.
[4] 7,293,805 pounds.
[5] 6,936,001 pounds.

OYSTER INDUSTRY OF MARYLAND AND VIRGINIA.

The total quantity of oysters taken in Maryland and Virginia in 1920 was 8,511,040 bushels, valued at $4,640,081, of which 4,547,471 bushels, valued at $2,291,120, are credited to Maryland and 3,963,569 bushels, valued at $2,348,961, to Virginia. The decline in this important fishery in recent years has been quite marked. In comparison with 1912 there was a decrease of 962,950 bushels, or 17.47 per cent, in Maryland and of 2,242,529 bushels, or 36.13 per cent, in Virginia, the decrease in the two States amounting to 3,205,479 bushels, or 27.35 per cent.

Following are statistics of the oyster industry of Maryland and Virginia for various years and for 1920, by counties, and a graph (Fig. 8) of the catch for various years in millions of bushels.

OYSTER INDUSTRY OF MARYLAND AND VIRGINIA, VARIOUS YEARS, 1880 TO 1920.

Years.	Maryland.			Virginia.			Total.		
	Bushels.	*Pounds.*	*Value.*	*Bushels.*	*Pounds.*	*Value.*	*Bushels.*	*Pounds.*	*Value.*
1880	10,600,000	74,200,000	$4,730,476	6,837,320	47,861,240	$2,218,376	17,437,320	122,061,240	$6,948,852
1887	8,148,217	57,037,519	2,683,435	[1] 2,921,140	20,447,980	1,002,901	11,069,357	77,485,499	3,686,336
1888	8,531,658	59,721,606	2,877,790	3,664,433	25,651,031	1,336,012	12,196,091	85,372,637	4,213,802
1890	10,450,087	73,150,609	4,854,746	6,074,025	42,518,175	2,482,348	16,524,112	115,668,784	7,337,094
1891	9,945,058	69,615,406	5,295,866	6,162,086	43,134,602	2,524,348	16,107,144	112,750,008	7,820,214
1897	7,254,934	50,784,538	2,885,202	7,023,848	49,166,936	2,041,683	14,278,782	99,951,474	4,926,885
1901	5,685,561	39,798,927	3,031,518	6,067,669	42,473,683	2,621,915	11,753,230	82,272,610	5,653,433
1904	4,429,650	31,007,550	2,417,674	7,612,289	53,286,023	3,459,676	12,041,939	84,293,573	5,877,350
1908	6,232,000	43,624,000	2,228,000	5,075,000	35,525,000	2,348,000	11,307,000	79,149,000	4,576,000
1912	5,510,421	38,572,947	2,127,759	6,206,098	43,442,686	2,286,340	11,716,519	82,015,633	4,414,099
1920	4,547,471	31,832,297	2,291,120	3,963,569	27,744,983	2,348,961	8,511,040	59,577,280	4,640,081

[1] Exclusive of the James and Potomac Rivers.

THE OYSTER FISHERY OF MARYLAND AND VIRGINIA IN 1920, BY COUNTIES.

States and counties.	Market oysters from natural rock.		Market oysters from private beds.		Seed oysters from natural rock.		Seed oysters from private beds.		Total.	
Maryland:	*Bushels.*	*Value.*	*Bushels.*	*Value.*	*Bush.*	*Value.*	*Bush.*	*Value.*	*Bushels.*	*Value.*
Anne Arundel	293,500	$124,726	3,350	$1,990					296,850	$126,716
Baltimore	106,635	56,100							106,635	56,100
Calvert	136,530	101,570	15,075	12,250					151,605	113,820
Charles	57,625	30,265	14,700	7,625					72,325	37,890
Dorchester	1,183,951	563,528	22,700	14,755					1,206,651	578,283
Kent	136,220	40,866							136,220	40,866
Queen Annes	265,700	106,280							265,700	106,280
St. Marys	279,335	157,495	19,060	8,210					298,395	165,705
Somerset	702,462	526,179	37,732	28,156					740,194	554,335
Talbot	961,687	308,854	4,150	1,245					965,837	310,099
Wicomico	133,596	80,501	125,500	63,750					259,096	144,251
Worcester	21,842	14,981	26,121	41,794					47,963	56,775
Total	4,279,083	2,111,345	268,388	179,775					4,547,471	2,291,120
Virginia:										
Accomac	160,949	111,984	285,571	203,120	30,500	8,825	20,000	2,450	497,020	326,379
Elizabeth City	22,500	11,025	324,822	204,360	78,300	19,575			425,622	234,960
Essex	25,850	18,095	27,200	19,040					53,050	37,135
Gloucester	34,370	25,654	136,797	103,973	2,000	500			173,167	130,107
Isle of Wight	75,000	33,750	19,655	9,827	169,100	42,275			263,755	85,852
James City			54,000	40,500					54,000	40,500
King George	7,330	3,600							7,330	3,600
King and Queen	2,700	1,790	60,000	45,500					62,700	47,290
King William			77,000	58,707					77,000	58,707
Lancaster	156,405	131,612	47,034	38,878					203,439	170,490
Mathews	94,466	70,320	64,776	46,695					159,242	117,015
Middlesex	302,620	236,321	1,050	735					303,670	237,056
Nansemond	124,800	56,360	56,955	28,450	103,250	25,813			285,005	110,623
New Kent			1,300	1,000					1,300	1,000
Norfolk	105,000	57,750	151,083	95,911					256,083	153,661

THE OYSTER FISHERY OF MARYLAND AND VIRGINIA IN 1920, BY COUNTIES—Contd.

States and counties.	Market oysters from natural rock.		Market oysters from private beds.		Seed oysters from natural rock.		Seed oysters from private beds.		Total.	
Virginia—Contd.	*Bushels.*	*Value.*	*Bushels.*	*Value.*	*Bush.*	*Value.*	*Bush.*	*Value.*	*Bushels.*	*Value.*
Northampton	30,650	$17,808	208,233	$123,076	40,500	$8,100	.....	.....	279,383	$148,984
Northumberland	80,996	55,850	58,930	46,540	.....	.....	.....	.....	139,926	102,390
Princess Anne	.....	.....	12,451	35,772	.....	.....	2,275	$750	14,726	36,522
Richmond	29,605	21,525	21,500	19,230	.....	.....	.....	.....	51,105	40,755
Warwick	75,250	37,550	5,000	2,500	120,000	30,000	.....	.....	200,250	70,050
Westmoreland	145,193	73,454	10,150	3,875	.....	.....	.....	.....	155,343	77,329
York	63,100	29,120	65,553	46,686	171,800	42,950	.....	.....	300,453	118,756
Total	1,536,784	993,548	1,689,060	1,174,375	715,450	178,038	22,275	3,200	3,963,569	2,349,161
Grand total	5,815,867	3,104,893	1,957,448	1,354,150	715,450	178,038	22,275	3,200	8,511,040	4,640,281

FISHERIES OF MARYLAND.

In 1920 the number of persons employed in the fisheries of Maryland was 21,383, of whom 1,947 were on vessels fishing, 733 on transporting vessels, 9,859 in the shore or boat fisheries, and 8,844 on shore in wholesale establishments, canneries, and other fishing industries.

The investment in fisheries amounted to $7,566,434 and includes 416 steam and gasoline fishing vessels, valued at $462,435, with a net tonnage of 4,330 tons and outfits valued at $98,677; sail and gasoline transporting vessels to the number of 308, valued at $583,475, with a net tonnage of 6,610 tons and outfits valued at $85,910; power, sail, row, and other boats to the value of $1,156,106; fishing apparatus employed on vessels to the value of $21,646; fishing apparatus employed in shore or boat fisheries to the value of $614,929; shore and accessory property to the value of $3,589,956; and cash capital amounting to $953,300.

Products of the fisheries amounted to 59,530,795 pounds, with a value of $4,198,668 to the fishermen. The species of chief importance arranged in the order of their value were: Oysters, 4,547,471 bushels, or 31,832,297 pounds, valued at $2,291,120; crabs to the number of 27,188,922, or 9,062,974 pounds, valued at $742,944; shad, 1,867,196 pounds, valued at $355,217; striped bass, 1,040,274 pounds, valued at $193,295; alewives, fresh and salted, 7,073,688 pounds, valued at $177,240; squeteagues or "sea trout," fresh and salted, 2,281,490 pounds, valued at $92,284; and croakers, 2,519,770 pounds, valued at $66,576.

Compared with 1904 there were decreases in the number of persons employed in the fisheries of Maryland of 8,954, or 29.51 per cent, and in the quantity of products taken, amounting to 21,598,071 pounds, or 26.62 per cent, but increases in the investment amounting to $1,582,969, or 26.45 per cent, and in the value of the product amounting to $862,108, or 25.83 per cent.

For comparative purposes the products of certain of the important fisheries of the State for various years are shown in the following table. It will be noted that there has been a marked decline in the catch of alewives, shad, crabs, and oysters. In 1890 these four products represented 74 per cent of the total catch of fishery products in the State; in 1891, 71.39 per cent; in 1897, 93.88 per cent; in 1901,

85.30 per cent; in 1904, 82.34 per cent; in 1908, 85.09 per cent; and in 1920, 83.71 per cent. These percentages clearly indicate the importance of these four fisheries to the State of Maryland and the

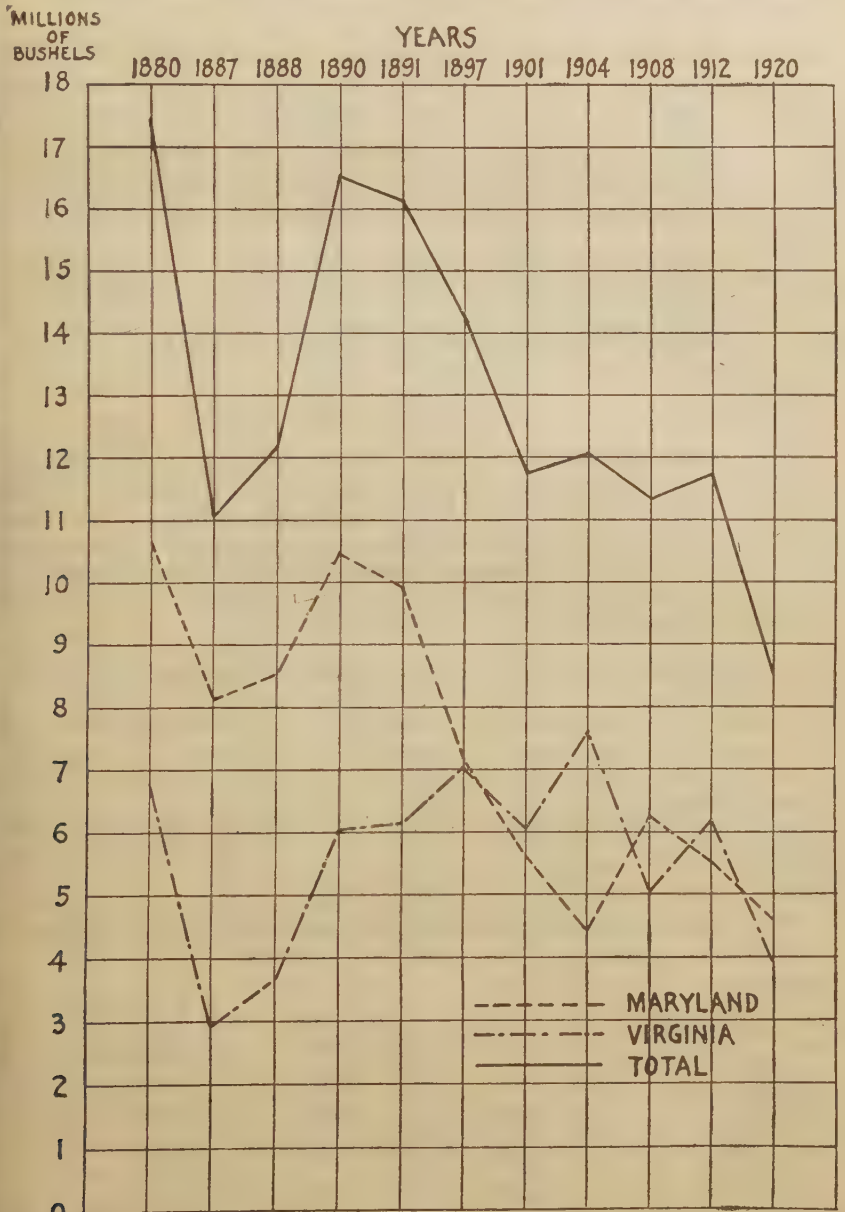

FIG. 8.—Catch of oysters in Maryland and Virginia in millions of bushels, for various years, 1880 to 1920.

importance of their perpetuation without danger of serious impairment if its fishing industry is to continue to be one of importance.

The catch of croakers and squetegues or "sea trout" shows a material increase. The catch of striped bass decreased from 1890 to 1908, but shows a substantial increase in 1920, being slightly less than the catches of 1890 and 1891.

PRODUCTS OF CERTAIN FISHERIES OF MARYLAND, VARIOUS YEARS, 1890 TO 1921.

Species.	1890	1891	1897	1901	1904	1908	1915	1920	1921
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Alewives	19,766,994	17,418,850	17,139,459	13,747,157	14,484,970	28,805,000	12,567,580	7,073,688	6,504,845
Croaker	.....	.....	236,295	303,405	165,840	179,000	.....	2,519,770	.....
Shad	7,127,486	6,224,873	5,799,563	3,111,181	2,912,249	3,937,000	1,454,535	1,867,196	1,807,074
Squeteagues or "sea trout"	687,173	750,465	597,179	1,018,775	785,215	1,191,000	.....	2,281,490	.....
Striped bass	1,365,928	1,264,693	935,347	824,418	721,240	640,000	.....	1,040,274	.....
Crabs	6,444,209	7,605,770	9,449,195	14,128,375	18,398,147	20,373,000	30,093,882	9,062,974	.....
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	
Oysters	10,450,087	9,945,058	7,254,934	5,685,561	4,429,650	6,232,000	[1]5,510,421	4,547,471	.....

[1] For 1912.

FISHERIES BY COUNTIES.

The number of persons engaged, the investment, and products of the fisheries of Maryland in 1920 are shown, by counties, in the appended table. In the number of persons employed Somerset leads with 5,263, Dorchester ranking second with 3,820. The largest investment is in Baltimore City. Dorchester County leads in quantity of products but ranks second in the value of products, the value of the catch of Somerset County being greater.

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF MARYLAND IN 1920, BY COUNTIES.

Items.	Anne Arundel.		Baltimore.[1]		Calvert.		Caroline.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	10	.....	149	.....	52	.....	.....	.....
On vessels transporting	52	.....	87	.....	35	.....	.....	.....
In shore fisheries	1,067	.....	192	.....	607	.....	66	.....
Shoresmen	480	.....	2,015	.....	61	.....	.....	.....
Total	1,609	.....	2,443	.....	755	.....	66	.....
INVESTMENT.								
Vessels fishing:								
Gasoline	4	$1,800	.....	.....	7	$3,350	.....	.....
Tonnage	26	.....	.....	.....	148	.....	.....	.....
Outfit	.....	700	.....	.....	.....	1,260	.....	.....
Sail	.....	.....	24	$42,300	8	11,200	.....	.....
Tonnage	.....	.....	711	.....	113	.....	.....	.....
Outfit	.....	.....	.....	16,175	.....	2,600	.....	.....
Vessels transporting:								
Gasoline	21	31,400	6	12,450	4	5,800	.....	.....
Tonnage	247	.....	111	.....	54	.....	.....	.....
Outfit	.....	6,085	.....	3,100	.....	1,200	.....	.....
Sail	6	9,500	23	49,950	8	20,800	.....	.....
Tonnage	110	.....	1,076	.....	343	.....	.....	.....
Outfit	.....	1,200	.....	6,930	.....	2,835	.....	.....
Boats:								
Sail, row, etc	307	7,990	116	2,690	218	7,085	36	$915
Power	422	115,725	29	5,975	194	54,210	6	1,075
Apparatus, vessel fisheries:								
Dredges	.....	.....	96	2,325	22	425	.....	.....
Tongs	16	130	.....	.....	8	222	.....	.....

[1] Includes Baltimore City.

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF MARYLAND IN 1920, BY COUNTIES—Continued.

Items.	Anne Arundel.		Baltimore.		Calvert.		Caroline.	
INVESTMENT—contd.								
Apparatus, shore fisheries:	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
Haul seines	52	$1,631	29	$2,710	18	$1,620	5	$500
Gill nets	15	330	27	1,160	17	185	121	2,757
Trammel nets	1	125	.....	.....	.....	.....	.....	.....
Pound nets	44	16,610	17	2,075	45	8,185	3	325
Fyke nets	124	305	338	3,315	.....	.....	51	955
Dip nets	101	44	.....	.....	77	26	.....	.....
Stop nets	2	125	.....	.....	.....	.....	.....	.....
Lines, hand and trot	.....	1,176	.....	246	.....	60	.....	.....
Eel pots	100	175	220	375	.....	.....	.....	.....
Tongs and nippers	880	7,070	.....	.....	586	5,018	.....	.....
Shore and accessory property	.....	113,265	.....	1,885,447	.....	6,815	.....	290
Cash capital	.....	27,400	.....	146,450	.....	4,600	.....	.....
Total	.....	342,786	.....	2,183,673	.....	137,496	.....	6,817
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	301,600	$5,457	15,745	$473	247,040	$4,525	19,870	$199
Alewives, salted	.....	.....	.....	.....	21,000	1,250	.....	.....
Black bass	100	31	2,876	667	.....	.....	.....	.....
Bluefish	90	10	.....	.....	50	10	.....	.....
Butterfish	.....	.....	.....	.....	675	55	.....	.....
Carp	36,500	2,893	8,262	761	6,510	405	750	39
Catfish	36,150	2,179	80,771	3,280	24,725	1,530	1,705	159
Croaker	84,175	3,447	5,000	200	279,400	6,155	.....	.....
Eels, fresh	10,100	955	18,017	1,664	550	55	.....	.....
Flounders	4,350	430	.....	.....	3,965	500	.....	.....
Gizzard shad	5,175	110	6,225	118	3,100	160	.....	.....
Hickory shad	.....	.....	.....	.....	600	25	.....	.....
Mullet	2,000	240	1,160	99	950	110	.....	.....
Perch, white	12,390	1,300	40,938	4,801	13,035	1,448	8,751	577
Perch, yellow	13,805	1,905	14,601	1,836	5,520	848	1,325	89
Pike or pickerel	4,030	899	5,405	1,184	1,825	405	35	6
Shad	35,892	8,642	110	30	74,680	13,576	17,427	3,714
Spanish mackerel	.....	.....	.....	.....	100	25	.....	.....
Spot	2,925	170	450	45	5,010	481	.....	.....
Squeteagues or "sea trout":								
Fresh	78,825	6,155	32,392	3,296	8,785	745	.....	.....
Striped bass	47,240	7,353	65,085	10,617	12,758	3,025	2,470	470
Sunfish	.....	.....	200	1	.....	.....	.....	.....
Crabs, hard	761,195	31,070	77,730	4,105	73,125	2,800	.....	.....
Crabs, soft	100,812	28,160	7,270	3,225	32,058	7,095	.....	.....
Oysters, market, public	2,054,500	124,726	746,445	56,100	955,710	101,570	.....	.....
Oysters, market, private	23,450	1,990	.....	.....	105,525	12,250	.....	.....
Total	3,615,304	228,122	1,128,682	92,502	1,876,696	159,048	52,333	5,253

Items.	Cecil.		Charles.		Dorchester.		Harford.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	.....	.....	10	.....	658	.....	.....	.....
On vessels transporting	11	.....	6	.....	161	.....	3	.....
In shore fisheries	213	.....	437	.....	1,255	.....	116	.....
Shoresmen	13	.....	100	.....	1,746	.....	190	.....
Total	237	.....	553	.....	3,820	.....	309	.....
INVESTMENT.								
Vessels fishing:								
Sail	.....	.....	2	$1,000	141	$129,110	.....	.....
Tonnage	.....	.....	16	.....	1,055	.....	.....	.....
Outfit	.....	.....	.....	695	.....	21,334	.....	.....
Vessels transporting:								
Gasoline	3	$3,300	1	1,200	22	44,550	1	$2,000
Tonnage	20	.....	30	.....	319	.....	7	.....
Outfit	.....	1,200	.....	700	.....	4,765	.....	400

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF MARYLAND IN 1920, BY COUNTIES—Continued.

Items.	Cecil.		Charles.		Dorchester.		Harford.	
INVESTMENT—contd.								
Vessels transporting—Continued.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
Sail	1	$2,000	1	$600	48	$110,400	.....	.....
Tonnage	9	.....	17	.....	1,559	.....	.....	.....
Outfit	.....	350	.....	375	.....	7,553	.....	.....
Boats:								
Sail, row, etc.	60	2,890	150	4,250	400	35,950	27	$1,800
Power	78	20,255	134	25,525	511	119,930	43	13,625
Apparatus, vessel fisheries:								
Scrapes	.....	.....	.....	.....	36	251	.....	.....
Dredges	.....	.....	4	120	282	6,000	.....	.....
Apparatus, shore fisheries:								
Haul seines	20	2,405	36	4,670	7	1,850	8	3,775
Gill nets	309	9,437	55	9,975	49	717	371	7,103
Trammel nets	3	208	.....	.....	.....	.....	1	200
Pound nets	122	23,950	59	8,150	227	44,470	14	6,200
Fyke nets	1,853	8,086	123	590	3	50	210	1,020
Dip nets	5	10	.....	.....	67	60	12	48
Lines, hand and trot	.....	.....	.....	126	.....	3,790	.....	5
Slat traps or baskets	.....	.....	.....	.....	.....	.....	1	100
Eel pots	25	50	133	205	2,720	1,975	320	640
Crab scrapes	.....	.....	.....	.....	140	980	.....	.....
Dredges	.....	.....	11	330	216	4,720	.....	.....
Tongs and nippers	.....	.....	256	1,844	800	5,604	.....	.....
Shore and accessory property	.....	18,250	.....	42,545	.....	340,898	.....	20,150
Cash capital	.....	900	.....	6,100	.....	178,800	.....	1,000
Total	.....	93,291	.....	109,000	.....	1,063,757	.....	58,066
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	692,880	$18,711	370,900	$12,320	595,482	$8,839	453,840	$10,599
Alewives, salted	477,900	12,088	.....	.....	.....	.....	230,400	24,480
Black bass	46,440	11,612	12,775	2,976	3,210	785	2,540	638
Black drum	.....	.....	.....	.....	700	8	.....	.....
Bluefish	.....	.....	.....	.....	1,630	247	.....	.....
Butterfish	.....	.....	.....	.....	1,915	137	.....	.....
Carp	85,230	7,293	49,525	2,887	7,685	355	24,093	1,206
Catfish	44,406	3,707	82,700	3,717	44,680	2,423	9,610	898
Croaker	.....	.....	17,470	670	380,945	10,573	.....	.....
Eels, fresh	9,785	989	6,345	780	71,323	8,519	4,800	435
Eels, salted	.....	.....	.....	.....	27,400	2,740	.....	.....
Flounders	.....	.....	.....	.....	11,360	579	.....	.....
Gizzard shad	.....	.....	2,750	64	4,917	140	.....	.....
Goldfish	.....	.....	500	38	.....	.....	.....	.....
Hickory shad	1,000	50	.....	.....	.....	.....	.....	.....
Mullet	11,137	335	795	57	150	12	890	67
Perch, white	52,600	6,310	25,965	2,084	53,433	3,606	8,400	1,008
Perch, yellow	42,547	5,087	52,455	4,126	31,920	1,789	7,950	954
Pike or pickerel	19,670	4,082	11,695	2,301	4,613	921	4,015	1,004
Redfish or "red drum"	.....	.....	.....	.....	2,500	41	.....	.....
Shad	165,762	28,097	190,024	39,227	348,883	60,220	63,964	10,606
Spot	.....	.....	360	25	8,500	420	.....	.....
Squeteagues or "sea trout," fresh	.....	.....	5,000	345	28,610	2,230	.....	.....
Striped bass	85,105	17,021	25,040	4,620	83,151	15,768	63,200	12,640
Sturgeon	.....	.....	45	15	150	30	.....	.....
Suckers	1,000	80	.....	.....	.....	.....	1,000	80
Sunfish	3,900	39	200	20	.....	.....	.....	.....
Yellowtail or "silver perch"	.....	.....	.....	.....	400	40	.....	.....
Crabs, hard	.....	.....	137,575	4,815	1,140,182	70,983	6,000	300
Crabs, soft	.....	.....	.....	.....	215,791	26,403	.....	.....
Oysters, market, public	.....	.....	403,375	30,265	8,287,657	563,528	.....	.....
Oysters, market, private	.....	.....	102,900	7,625	158,900	14,755	.....	.....
Turtles	350	18	1,000	45	.....	.....	.....	.....
Total	1,729,712	115,519	1,499,394	119,022	11,516,027	796,096	880,702	64,915

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF MARYLAND IN 1920, BY COUNTIES—Continued.

Items.	Kent.		Prince Georges.		Queen Annes.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	14				2	
On vessels transporting	39				26	
In shore fisheries	424		66		592	
Shoresmen	28				221	
Total	505		66		841	
INVESTMENT.						
Vessels fishing:						
Gasoline					1	$1,500
Tonnage					5	
Outfit						100
Sail	2	$1,800				
Tonnage	43					
Outfit		300				
Vessels transporting:						
Gasoline	4	8,400			3	4,500
Tonnage	98				32	
Outfit		3,225				725
Sail	14	16,800			7	7,800
Tonnage	379				164	
Outfit		2,020				1,260
Boats:						
Sail, row, etc	71	3,325	44	$1,225	116	3,505
Power	212	58,085	5	1,325	253	59,400
Apparatus, vessel fisheries:						
Purse seines	2	400				
Tongs					2	15
Apparatus, shore fisheries:						
Purse seines	1	200				
Haul seines	9	1,625	3	160	17	2,160
Gill nets	2,212	27,285	34	4,525	3	90
Pound nets	67	25,550	12	650	18	1,500
Fyke nets	754	4,391	88	400	130	1,695
Lines, hand and trot		177				136
Eel pots	159	247			108	97
Tongs and nippers	287	2,296			527	3,543
Shore and accessory property		17,000		320		27,127
Cash capital		1,200				11,000
Total		174,326		8,605		126,153
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	181,320	$3,513	23,800	$912	34,000	$410
Black bass	7,850	1,953	750	150	600	120
Bluefish	3,350	536				
Butterfish	8,050	1,449				
Carp	54,550	2,521	2,600	190	26,195	2,042
Catfish	26,775	2,488	6,100	295	15,705	837
Crevallé	3,200	96				
Croaker	35,600	1,068			60,600	1,818
Eels, fresh	15,370	1,214			6,900	677
Eels, salted					4,050	405
Flounders	14,950	598			400	22
Hickory shad	500	20				
Mullet	9,800	384	1,000	120	1,220	63
Perch, white	47,750	5,530	3,275	425	8,800	764
Perch, yellow	27,300	3,276	3,035	315	83,820	8,605
Pike or pickerel	8,330	2,084	435	70	1,000	203
Shad	307,300	59,319	79,300	19,435	1,391	299
Spot	20,710	1,036			4,680	300
Squeteagues or "sea trout," fresh	355,600	20,936			8,230	792
Striped bass	459,475	87,587	315	68	24,765	4,953
Sunfish	1,000	10				
Crabs, hard	440,000	19,225			143,125	4,660
Oysters, market, public	953,540	40,866			1,859,900	106,280
Terrapin					205	135
Turtles	500	25			395	19
Total	2,982,820	255,734	120,610	21,980	2,285,981	133,404

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF MARYLAND IN 1920, BY COUNTIES—Continued.

Items.	St. Marys.		Somerset.		Talbot.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	60		710		273	
On vessels transporting	51		159		72	
In shore fisheries	1,099		1,809		956	
Shoresmen	134		2,585		1,100	
Total	1,344		5,263		2,401	
INVESTMENT.						
Vessels fishing:						
Gasoline	1	$1,050	1	$3,350		
Tonnage	5		13			
Outfit		400		400		
Sail	13	8,150	154	203,925	57	$50,300
Tonnage	91		1,656		414	
Outfit		4,610		42,440		7,533
Vessels transporting:						
Gasoline	3	1,200	37	89,500	17	22,900
Tonnage	25		374		138	
Outfit		1,075		18,612		3,020
Sail	20	29,675	33	55,500	14	33,000
Tonnage	446		675		124	
Outfit		6,655		8,730		1,815
Boats:						
Sail, row, etc	548	16,525	745	95,756	182	7,862
Power	265	62,975	628	195,113	42	105,800
Apparatus, vessel fisheries:						
Scrapes			55	385		
Dredges	28	510	312	8,013	112	2,335
Tongs					2	15
Apparatus, shore fisheries:						
Haul seines	11	1,150			2	280
Gill nets			170	1,173	84	2,631
Pound nets	87	13,835	52	15,725	168	48,100
Fyke nets	2	50	14	1,225	17	205
Dip nets	321	101	722	1,100		
Lines, hand and trot		540		985		1,633
Eel pots	77	122	222	165		
Eel spears			6	12		
Crab scrapes			1,256	8,794		
Dredges	94	2,265	216	5,477	10	275
Tongs and nippers	1,011	7,275	590	4,474	619	4,313
Shore and accessory property		15,665		709,501		305,736
Cash capital		11,400		410,800		119,100
Total		185,228		1,881,155		716,853
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	534,888	$5,257	105,906	$1,913	1,506,865	$26,187
Alewives, salted					682,000	24,052
Black bass			247	37		
Bluefish			1,769	265	7,200	864
Butterfish			8,187	1,228		
Carp	20,125	1,353	300	15	1,165	70
Catfish	33,975	1,716	14,450	1,184	5,705	469
Croaker	80,525	2,215	47,075	993	134,800	4,044
Eels, fresh	3,495	337	17,908	2,475		
Flounders	875	104	16,235	1,022	10,500	525
Gizzard shad	7,900	321				
Menhaden			7,500	30		
Mullet			6,235	374		
Perch, white	11,075	1,373	11,922	418	5,200	461
Perch, yellow	15,850	1,424			6,130	448
Pike or pickerel	450	90	155	20	100	10
Redfish or "red drum"			2,335	35		
Shad	80,750	14,141	37,040	6,939	328,543	60,452
Spanish mackerel			237	36		
Spot	4,900	251	857	60	1,000	50
Squeteagues or "sea trout," fresh	12,325	812	121,123	6,262	8,650	767
Striped bass	101,645	15,304	950	162	55,440	11,088
Sturgeon					510	127
Sturgeon caviar					29	87
Crabs, hard	217,000	7,280	764,229	55,764	1,273,375	42,823
Crabs, soft	105,425	18,495	3,435,915	411,406		
Clams, hard			4,200	1,475		
Oysters, market, public	1,955,345	157,495	4,917,234	526,179	6,731,809	308,854
Oysters, market, private	133,420	8,210	264,124	28,156	29,050	1,245
Terrapin			618	865		
Turtles			800	40		
Total	3,319,968	236,178	9,787,551	1,047,353	10,788,071	482,623

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF MARYLAND IN 1920, BY COUNTIES—Continued.

Items.	Wicomico.		Worcester		Total.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	9				1,947	
On vessels transporting	26		5		733	
In shore fisheries	528		432		9,859	
Shoresmen	144		27		8,844	
Total	707		464		21,383	
INVESTMENT.						
Vessels fishing:						
Gasoline					14	$11,050
Tonnage					197	
Outfit						2,860
Sail	1	$3,600			402	451,385
Tonnage	34				4,133	
Outfit		130				95,817
Vessels transporting:						
Gasoline	2	4,000			124	231,200
Tonnage	24				1,479	
Outfit		455				44,562
Sail	8	15,650	1	$600	184	352,275
Tonnage	222		7		5,131	
Outfit		1,435		190		41,348
Boats:						
Sail, row, etc	88	2,150	156	3,590	3,264	197,508
Power	183	44,665	123	74,915	3,128	958,598
Apparatus, vessel fisheries:						
Purse seines	1	500			3	900
Scrapes					91	636
Dredges					856	19,728
Tongs					28	382
Apparatus, shore fisheries:						
Purse seines					1	200
Haul seines	1	300			218	24,836
Gill nets	183	4,058	597	14,750	4,247	86,176
Trammel nets					5	533
Pound nets	39	8,900	98	166,060	1,072	390,285
Fyke nets	16	290	145	7,250	3,868	29,827
Bow nets	12	96	25	250	37	346
Dip nets					1,305	1,389
Stop nets					2	125
Otter trawls	1	95			1	95
Lines, hand and trot		285		240		9,399
Slat traps or baskets					1	100
Eel pots	12	12	130	65	4,226	4,128
Eel spears			3	9	9	21
Crab scrapes					1,396	9,774
Dredges					547	13,037
Tongs and nippers	346	2,453	104	738	6,006	44,628
Shore and accessory property		53,942		33,005		3,589,956
Cash capital		33,650		900		953,300
Total		176,666		302,502		7,566,434
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	94,455	$1,459	468,797	$13,696	5,647,388	$114,470
Alewives, salted	15,000	900			1,426,300	62,770
Black bass					77,388	18,969
Black drum					700	8
Bluefish	900	180	58,606	11,652	73,595	16,764
Bonito			46,420	2,785	146,420	2,785
Butterfish			857,000	24,333	875,827	24,302
Carp	460	69	5,500	826	329,150	22,925
Catfish	38,950	4,005	4,800	480	471,207	29,367
Crevallé					3,200	96
Croaker	5,000	500	1,389,180	34,829	2,519,770	66,576
Eels, fresh	1,250	150	4,275	686	170,118	18,936
Eels, salted					31,450	3,145
Flounders	290	53	221,900	11,245	287,705	15,078
Gizzard shad					30,067	913
Goldfish					500	38
Hickory shad					2,100	95
King whiting			9,190	1,741	9,190	1,741
Menhaden					7,500	30
Mullet			66,020	3,301	101,357	5,162
Perch, white	13,381	1,921	4,824	965	321,739	32,991

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF MARYLAND IN 1920, BY COUNTIES—Continued.

Items.	Wicomico.		Worcester.		Total.	
PRODUCTS—continued.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Perch, yellow	940	$110	3,200	$640	310,398	$31,452
Pike or pickerel	450	59	2,250	350	64,458	13,688
Pompano			734	147	734	147
Redfish or "red drum"			36,700	551	41,535	627
Scup			101,980	2,611	101,980	2,611
Sea bass			42,980	3,447	42,980	3,447
Shad	85,280	19,413	50,850	11,107	1,867,196	355,217
Sheepshead			51	8	51	8
Spanish mackerel			8,140	1,221	8,477	1,282
Spot	2,300	300	313,067	3,691	364,759	6,829
Squeteagues or "sea trout":						
Fresh	11,930	1,033	1,603,020	48,141	2,274,490	91,514
Salted	7,000	770			7,000	770
Striped bass	13,635	2,619			1,040,274	193,295
Sturgeon			20,706	5,379	21,411	5,551
Sturgeon caviar			2,755	8,663	2,784	8,750
Suckers					2,000	160
Sunfish					5,300	70
Whiting			11,730	234	11,730	234
Yellowtail or "silver perch"					400	40
Crabs, hard	36,167	2,170	96,000	2,160	5,165,703	248,160
Crabs, soft					3,897,271	494,784
Squid			468	29	468	29
Clams, hard			26,000	9,100	30,200	10,575
Oysters, market, public	935,172	80,501	152,894	14,981	29,953,581	2,111,345
Oysters, market, private	878,500	63,750	182,847	41,794	1,878,716	179,775
Terrapin					823	1,000
Turtles					3,045	147
Total	2,141,060	179,962	5,795,884	260,957	59,530,795	4,198,668

FISHERIES BY APPARATUS.

The yield of the vessel fisheries of Maryland in 1920 was 11,868,150 pounds, valued at $881,796, consisting almost wholly of oysters taken with dredges. In the shore fisheries the most productive forms of apparatus were tongs and nippers, with a catch of 17,954,078 pounds of oysters and clams, valued at $1,265,560; pound nets, 13,581,370 pounds, valued at $621,363, the principal species taken being alewives, squeteagues, croakers, shad, and butterfish; lines, chiefly used in the fishery for crabs, 4,825,382 pounds, valued at $234,253; dredges used for taking oysters, 2,287,509 pounds, valued at $181,634; seines, 2,198,816 pounds, valued at $181,291, the more important species taken being alewives, croakers, carp, striped bass, and squeteagues; gill nets, 1,600,462 pounds, valued at $249,297, the more important species taken being shad, alewives, striped bass, and mullet; and scrapes for crabs, 1,454,908 pounds, valued at $286,586.

The products of the vessel fisheries and of the shore fisheries are shown separately, by counties, in the appended tables.

YIELD OF VESSEL FISHERIES OF MARYLAND IN 1920, BY COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Anne Arundel.		Baltimore City.		Calvert.		Charles.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Dredges: Oysters, market, public			746,445	$56,100	180,250	$19,500	29,925	$1,900
Tongs: Oysters, market, public	48,300	$2,850			24,955	2,510		
Grand total	48,300	2,850	746,445	56,100	205,205	22,010	29,925	1,900

YIELD OF VESSEL FISHERIES OF MARYLAND IN 1920, BY COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Dorchester.		Kent.		Queen Annes.		St. Marys.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Purse seines:								
Perch, white			400	$48				
Spot			1,000	50				
Squeteagues			48,000	2,480				
Striped bass			40,000	7,200				
Total			89,400	9,778				
Scrapes:								
Crabs, hard	3,798	$315						
Crabs, soft	55,660	6,679						
Total	59,458	6,994						
Dredges: Oysters, market, public	5,201,322	317,043					162,505	$19,550
Tongs: Oysters, market, public					16,800	$960		
Grand total	5,260,780	324,037	89,400	9,778	16,800	960	162,505	19,550

Apparatus and species.	Somerset.		Talbot.		Wicomico.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Purse seines:								
Bluefish					600	$120	600	$120
Croakers					500	50	500	50
Flounders					90	17	90	17
Perch, white							400	48
Spot					800	120	1,800	170
Squeteagues					5,680	568	53,680	3,048
Striped bass					500	125	40,500	7,325
Total					8,170	1,000	97,570	10,778
Scrapes:								
Crabs, hard	6,815	$476					87,195	9,362
Crabs, soft	83,397	9,047					62,475	7,155
Total	90,212	9,523					149,670	16,517
Dredges: Oysters, market, public	2,970,464	317,767	2,217,544	$115,041			11,508,455	846,901
Tongs: Oysters, market, public			22,400	1,280			112,455	7,600
Grand total	3,060,676	327,290	2,239,944	116,321	8,170	1,000	11,868,150	881,796

YIELD OF SHORE FISHERIES OF MARYLAND FOR 1920.

BY SEINES.

Species.	Anne Arundel.		Baltimore.[1]		Calvert.		Caroline.		Cecil.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	1,400	$52	6,000	$75	3,200	$80	4,400	$44	10,080	$252
Black bass			2,030	475					29,150	7,288
Carp	25,550	2,084	7,700	710	5,900	365	500	20	57,400	5,870
Catfish	13,050	1,042	15,375	616	16,225	985			9,050	905
Croaker	50,000	2,270	5,000	200	251,425	5,260				
Eels			1,695	171	50	5			250	25
Gizzard shad			3,600	66	2,100	140				
Mullet	2,000	240	175	13	900	100			350	11
Perch, white	810	82	7,265	873	1,935	218	1,730	108	1,600	192
Perch, yellow	2,800	385	5,710	715	4,800	743	635	41	762	73
Pike or pickerel	1,330	258	1,715	415	1,825	405	35	6	8,050	1,218
Shad	570	175					1,714	363	290	67
Spot	1,400	65	450	45	3,600	355				
Squeteagues or "sea trout"	37,000	2,760	12,300	1,395	2,600	180				
Striped bass	5,365	975	23,070	3,907	5,713	1,485	415	83	22,300	4,460
Crabs, hard	50	15								
Crabs, soft	37,625	9,475	6,450	2,900						
Turtles									50	3
Total	178,950	19,878	98,535	12,576	300,273	10,321	9,429	665	139,332	20,364

[1] Includes Baltimore City.

Yield of Shore Fisheries of Maryland for 1920—Continued.

BY SEINES—Continued.

Species.	Charles.		Dorchester.		Harford.		Kent.		Prince Georges.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	150,000	$6,000	.....	.....	211,200	$5,280	20,000	$500	1,400	$52
Alewives, salted	.....	.....	.....	.....	230,400	24,480	.....	.....	.....	.....
Black bass	12,240	2,879	.....	.....	600	150	600	150	.....	.....
Carp	38,625	2,392	.....	.....	18,600	930	38,225	1,912	1,700	90
Catfish	33,025	1,349	.....	.....	1,600	160	2,100	39	2,000	100
Croaker	3,570	179	84,000	$2,520	.....	.....	3,500	105	.....	.....
Eels	375	44	.....	.....	.....	.....	.....	.....	.....	.....
Gizzard shad	1,250	34	.....	.....	.....	.....	.....	.....	.....	.....
Goldfish	300	38	.....	.....	.....	.....	.....	.....	.....	.....
Mullet	775	56	.....	.....	.....	.....	2,800	112	1,000	120
Perch, white	6,835	446	29,360	1,590	3,150	378	4,800	376	.....	.....
Perch, yellow	25,955	2,086	18,200	910	1,250	150	4,800	576	1,000	130
Pike or pickerel	7,545	1,477	.....	.....	400	100	230	58	100	20
Shad	58,650	11,360	4,200	725	1,120	192	.....	.....	1,930	500
Spot	.....	.....	8,500	420	.....	.....	710	36	.....	.....
Squeteagues or "sea trout"	1,500	75	2,000	160	.....	.....	41,700	2,502	.....	.....
Striped bass	8,440	1,616	12,367	2,390	24,000	4,800	65,050	11,829	150	22
Sunfish	200	20	.....	.....	.....	.....	.....	.....	.....	.....
Total	349,485	30,051	158,627	8,715	492,320	36,620	184,515	18,195	9,280	1,034

Species.	Queen Annes.		St. Marys.		Talbot.		Wicomico.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	.....	.....	.....	.....	.....	.....	.....	.....	407,680	$12,335
Alewives, salted	.....	.....	.....	.....	.....	.....	.....	.....	230,400	24,480
Black bass	.....	.....	.....	.....	.....	.....	.....	.....	44,620	10,942
Bluefish	.....	.....	.....	.....	.....	.....	300	$60	300	60
Carp	22,270	$1,770	13,550	$1,049	200	$11	100	15	230,320	17,218
Catfish	8,200	389	10,000	459	400	40	250	25	111,275	6,109
Croaker	45,400	1,362	39,400	962	1,100	33	4,500	450	487,895	13,341
Eels	650	65	170	17	.....	.....	.....	.....	3,190	327
Flounders	200	12	75	6	.....	.....	200	36	475	54
Gizzard shad	.....	.....	5,300	232	.....	.....	.....	.....	12,250	472
Goldfish	.....	.....	.....	.....	.....	.....	.....	.....	500	38
Mullet	.....	.....	.....	.....	.....	.....	.....	.....	8,000	652
Perch, white	4,800	305	4,975	661	.....	.....	700	105	67,960	5,334
Perch, yellow	32,270	3,077	3,400	450	3,500	280	200	30	105,282	9,646
Pike or pickerel	450	68	.....	.....	.....	.....	.....	.....	21,680	4,025
Shad	.....	.....	.....	.....	.....	.....	.....	.....	68,474	13,382
Spot	4,600	296	2,950	158	.....	.....	1,500	180	23,710	1,555
Squeteagues or "sea trout"	8,180	788	4,300	226	.....	.....	1,800	180	111,380	8,266
Striped bass	23,925	4,785	26,200	3,785	850	170	1,000	200	218,845	40,507
Sunfish	.....	.....	.....	.....	.....	.....	.....	.....	200	20
Crabs, hard	.....	.....	.....	.....	.....	.....	.....	.....	50	15
Crabs, soft	.....	.....	.....	.....	.....	.....	.....	.....	44,075	12,375
Turtles	.....	.....	.....	.....	.....	.....	.....	.....	50	3
Terrapin	205	135	.....	.....	.....	.....	.....	.....	205	135
Total	151,150	13,052	110,320	8,005	6,050	534	10,550	1,281	2,198,816	181,291

BY GILL NETS.

Species.	Anne Arundel.		Baltimore.[1]		Calvert.		Caroline.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives	.....	.....	1,000	$20	.....	.....	9,820	$98
Black bass	100	$31	.....	.....	.....	.....	.....	.....
Carp	.....	.....	.....	.....	.....	.....	50	3
Catfish	5,300	310	.....	.....	.....	.....	425	41
Perch, white	1,195	155	3,565	404	1,200	$160	650	43
Perch, yellow	3,225	525	.....	.....	.....	.....	.....	.....
Pike or pickerel	790	210	.....	.....	.....	.....	.....	.....
Shad	8,000	2,480	110	30	4,500	780	13,341	2,828
Squeteagues or "sea trout"	.....	.....	11,050	1,150	.....	.....	.....	.....
Striped bass	400	100	35,580	5,710	.....	.....	730	137
Total	19,010	3,811	51,305	7,314	5,700	940	25,016	3,150

[1] Includes Baltimore City.

YIELD OF SHORE FISHERIES OF MARYLAND FOR 1920—Continued.

BY GILL NETS—Continued.

Species.	Cecil.		Charles.		Dorchester.		Harford.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
lewives	30,400	$760	30,000	$1,200	14,500	$145	36,720	$918
lack bass	40	10					1,000	250
luefish					1,460	215		
arp	14,675	740					3,350	168
atfish	1,350	136			180	18	4,200	420
ullet	833	25					200	10
erch, white					1,530	108	250	30
erch, yellow					550	33	2,000	240
ike or pickerel	60	15					1,500	375
had	107,016	18,272	128,000	27,100	6,975	1,454	52,476	8,625
riped bass	45,505	9,101			1,811	355	32,050	6,410
Total	199,879	29,059	158,000	28,300	27,006	2,328	133,746	17,446

Species.	Kent.		Prince Georges.		Queen Annes.		Somerset.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
lewives	7,680	$192			10,000	$125		
lack bass	50	13						
luefish							1,769	$265
arp	3,450	174						
atfish	2,575	238						
oaker	750	22						
ounders	150	6						
ullet							6,235	374
erch, white	5,900	708						
erch, yellow	2,500	300						
ke or pickerel	2,200	550						
had	303,100	58,599	75,500	$18,485			11,237	1,956
panish mackerel							237	36
ueteagues or "sea trout"	200	12						
riped bass	164,750	30,645						
Total	493,305	91,459	75,500	18,485	10,000	125	19,478	2,631

Species.	Talbot.		Wicomico.		Worcester.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
ewives	3,600	$52	41,500	$815	125,743	$3,772	310,963	$8,097
ack bass							1,190	304
uefish	7,200	864					10,429	1,344
arp	75	6			5,500	826	27,100	1,917
atfish	430	39	4,500	450	4,800	480	23,760	2,132
oaker							750	22
ounders							150	6
ing whiting					1,850	273	1,850	273
ullet					66,020	3,301	73,288	3,710
erch, white	600	50	2,950	436	1,950	390	19,790	2,484
erch, yellow	75	6	100	14	3,200	640	11,650	1,758
ke or pickerel			450	59	2,250	350	7,250	1,559
a bass					1,680	143	1,680	143
had	7,150	1,536	63,614	14,823	6,250	1,112	787,269	158,080
panish mackerel							237	36
ueteagues or "sea trout"	2,200	176					13,450	1,338
riped bass	1,115	223	6,700	1,340			288,641	54,021
urgeon					18,680	4,670	18,680	4,670
urgeon caviar					2,335	7,403	2,335	7,403
Total	22,445	2,952	119,814	17,937	240,258	23,360	1,600,462	249,297

BY POUND NETS.

Species.	Anne Arundel.		Baltimore.[1]		Calvert.		Caroline.		Cecil.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
ewives, fresh	300,200	$5,405	4,200	$208	243,840	$4,445	3,450	$35	649,400	$17,615
ewives, salted					21,000	1,250			477,900	12,088
ack bass			270	70					8,750	2,188
uefish	90	10			50	10				
tterfish					675	55				

[1] Includes Baltimore City.

Yield of Shore Fisheries of Maryland for 1920—Continued.

BY POUND NETS—Continued.

Species.	Anne Arundel.		Baltimore.		Calvert.		Caroline.		Cecil.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Carp	7,950	$479	242	$16	610	$40	.....	.....	6,055	$304
Catfish	2,950	117	24,050	1,015	8,500	545	450	$40	19,556	1,231
Croaker	32,175	1,057	.....	.....	27,375	865	.....	.....	.....	.....
Eels	4,100	355	1,260	115	500	50	.....	.....	400	40
Flounders	4,350	430	.....	.....	3,965	500	.....	.....	.....	.....
Gizzard shad	4,175	90	2,100	40	1,000	20	.....	.....	.....	.....
Hickory shad	.....	.....	.....	.....	600	25	.....	.....	1,000	50
Mullet	.....	.....	160	16	50	10	.....	.....	6,204	186
Perch, white	8,460	848	11,515	1,712	9,900	1,070	1,371	96	19,850	2,380
Perch, yellow	3,820	495	1,865	280	720	105	40	3	17,135	2,056
Pike or pickerel	685	146	635	130	.....	.....	.....	.....	2,760	698
Shad	27,322	5,987	.....	.....	70,180	12,796	1,115	239	57,288	9,518
Spanish mackerel	.....	.....	.....	.....	100	25	.....	.....	.....	.....
Spot	1,025	75	.....	.....	1,410	126	.....	.....	.....	.....
Squeteagues or "sea trout":										
Fresh	40,625	3,295	8,985	745	6,085	555	.....	.....	.....	.....
Striped bass	41,060	6,188	6,360	985	6,945	1,530	575	115	14,050	2,810
Sunfish	.....	.....	.....	.....	.....	.....	.....	.....	400	4
Crabs, hard	8,050	325	.....	.....	.....	.....	.....	.....	.....	.....
Total	487,037	25,302	61,642	5,332	403,505	24,022	7,001	528	1,280,748	51,168

Species.	Charles.		Dorchester.		Harford.		Kent.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	190,900	$5,120	579,282	$8,677	185,200	$3,883	152,000	$2,780
Black bass	50	12	3,210	785	240	63	.....	.....
Black drum	.....	.....	700	8	.....	.....	.....	.....
Bluefish	.....	.....	50	8	.....	.....	3,350	536
Butterfish	.....	.....	1,915	137	.....	.....	8,050	1,449
Carp	6,150	353	7,685	355	700	35	950	48
Catfish	33,375	1,702	44,200	2,375	680	68	3,250	326
Crevalle	.....	.....	.....	.....	.....	.....	3,200	96
Croaker	13,900	491	293,825	7,897	.....	.....	30,350	911
Eels	.....	.....	440	53	1,400	98	3,220	225
Flounders	.....	.....	11,300	579	.....	.....	14,800	592
Gizzard shad	1,500	30	4,917	140	.....	.....	.....	.....
Hickory shad	.....	.....	.....	.....	.....	.....	500	20
Mullet	20	1	150	12	490	22	.....	.....
Perch, white	18,800	1,615	22,087	1,855	2,000	240	20,450	2,454
Perch, yellow	21,700	1,730	13,000	829	1,700	204	1,900	228
Pike or pickerel	1,500	314	4,613	921	215	54	500	125
Redfish or red drum	.....	.....	2,500	41	.....	.....	.....	.....
Shad	3,374	767	337,708	58,041	9,810	1,682	4,200	720
Spot	360	25	.....	.....	.....	.....	19,000	950
Squeteagues or "sea trout":								
Fresh	3,500	270	23,990	1,808	.....	.....	265,600	15,936
Striped bass	16,400	2,964	68,283	12,885	2,850	570	180,800	36,160
Sturgeon	45	15	150	30	.....	.....	.....	.....
Total	311,574	15,409	1,420,005	97,436	205,285	6,919	712,120	63,556

Species.	Prince Georges.		Queen Annes.		St. Marys.		Somerset.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	22,400	$860	24,000	$285	534,888	$5,257	98,779	$1,810
Butterfish	.....	.....	.....	.....	.....	.....	8,187	1,228
Carp	.....	.....	250	17	6,575	304	300	15
Catfish	1,100	65	.....	.....	23,775	1,247	9,950	804
Croaker	.....	.....	15,200	456	40,950	1,243	29,550	566
Eels	.....	.....	.....	.....	1,875	196	243	34
Flounders	.....	.....	200	10	750	95	[2] 14,905	982
Gizzard shad	.....	.....	.....	.....	2,600	89	.....	.....
Menhaden	.....	.....	.....	.....	.....	.....	7,500	30
Perch, white	3,275	425	1,250	230	5,500	663	1,792	215
Perch, yellow	335	50	9,650	1,753	12,210	955	.....	.....
Pike or pickerel	.....	.....	.....	.....	450	90	.....	.....
Redfish or red drum	.....	.....	.....	.....	.....	.....	2,335	35
Shad	1,870	450	1,391	299	80,750	14,141	25,043	4,850
Spot	.....	.....	80	4	1,950	93	.....	.....
Squeteagues or "sea trout":								
Fresh	.....	.....	50	4	7,200	536	103,356	5,459
Striped bass	165	46	530	106	75,445	11,519	650	117
Total	29,145	1,896	52,601	3,164	794,918	36,428	302,590	16,145

[2] Includes 13,370 pounds salted flounders, valued at $936.

YIELD OF SHORE FISHERIES OF MARYLAND FOR 1920—Continued.

BY POUND NETS—Continued.

Species.	Talbot.		Wicomico.		Worcester.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	1,502,615	$26,125	46,670	$539	208,384	$5,884	4,746,208	$88,928
Alewives, salted	682,000	24,052	15,000	900	.....	.....	1,195,900	38,290
Black bass	.....	.....	.....	.....	.....	.....	12,520	3,118
Black drum	.....	.....	.....	.....	.....	.....	700	8
Bluefish	.....	.....	.....	.....	2,936	734	6,476	1,298
Bonito	.....	.....	.....	.....	25,020	1,501	25,020	1,501
Butterfish	.....	.....	.....	.....	857,000	21,433	875,827	24,302
Carp	800	48	300	45	.....	.....	38,567	2,059
Catfish	4,610	369	10,300	1,030	.....	.....	186,746	10,934
Crevallé	.....	.....	.....	.....	.....	.....	3,200	96
Croaker	133,700	4,011	.....	.....	1,311,280	32,774	1,928,305	50,271
Eels	.....	.....	.....	.....	.....	.....	13,438	1,166
Flounders	10,500	525	.....	.....	215,600	10,780	276,370	14,493
Gizzard shad	.....	.....	.....	.....	.....	.....	16,292	409
Hickory shad	.....	.....	.....	.....	.....	.....	2,100	95
King whiting	.....	.....	.....	.....	7,340	1,468	7,340	1,468
Menhaden	.....	.....	.....	.....	.....	.....	7,500	30
Mullet	.....	.....	.....	.....	.....	.....	7,074	247
Perch, white	3,300	281	4,860	650	.....	.....	134,410	14,734
Perch, yellow	2,340	145	75	11	.....	.....	86,490	8,844
Pike or pickerel	100	10	.....	.....	.....	.....	11,458	2,488
Pompano	.....	.....	.....	.....	734	147	734	147
Redfish or red drum	.....	.....	.....	.....	36,700	551	41,535	627
Scup	.....	.....	.....	.....	73,400	1,468	73,400	1,468
Shad	321,053	58,845	21,666	4,590	32,100	7,770	994,870	180,695
Sheepshead	.....	.....	.....	.....	51	8	51	8
Spanish mackerel	.....	.....	.....	.....	8,140	1,221	8,240	1,246
Spot	1,000	50	.....	.....	313,067	3,691	337,892	5,014
Squeteagues or "sea trout":								
Fresh	6,450	591	4,000	240	1,571,200	47,136	2,041,041	76,575
Salted	.....	.....	7,000	770	.....	.....	7,000	770
Striped bass	53,300	10,660	3,425	559	.....	.....	470,838	87,214
Sturgeon	510	127	.....	.....	2,026	709	2,731	881
Sturgeon caviar	29	87	.....	.....	420	1,260	449	1,347
Sunfish	.....	.....	.....	.....	.....	.....	400	4
Whiting	.....	.....	.....	.....	11,730	234	11,730	234
Squid	.....	.....	.....	.....	468	29	468	29
Crabs, hard	.....	.....	.....	.....	.....	.....	8,050	325
Total	2,722,307	125,926	113,296	9,334	4,677,596	138,798	13,581,370	621,363

BY TRAMMEL NETS.

Species.	Anne Arundel.		Cecil.		Harford.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives	.....	.....	2,000	$50	.....	.....	2,000	$50
Black bass	.....	.....	3,000	750	.....	.....	3,000	750
Carp	.....	.....	900	45	1,000	$50	1,900	95
Catfish	.....	.....	650	65	200	20	850	85
Mullet	.....	.....	.....	.....	100	30	100	30
Perch, white	350	$35	.....	.....	100	12	450	47
Perch, yellow	1,500	150	.....	.....	200	24	1,700	174
Pike or pickerel	800	200	1,500	325	.....	.....	2,300	525
Striped bass	115	25	200	40	4,200	840	4,515	905
Total	2,765	410	8,250	1,275	5,800	976	16,815	2,661

BY FYKE NETS.

Species.	Anne Arundel.		Baltimore.[1]		Caroline.		Cecil.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives	.....	.....	4,545	$170	2,200	$22	640	$16
Black bass	.....	.....	576	122	.....	.....	5,500	1,376
Carp	.....	.....	320	35	200	16	6,200	334
Catfish	14,850	$710	41,346	1,649	830	78	13,800	1,370
Eels, fresh	.....	.....	3,612	318	.....	.....	8,735	884
Gizzard shad	1,000	20	525	12	.....	.....	.....	.....
Mullet	.....	.....	825	70	.....	.....	3,750	113
Perch, white	1,075	130	18,593	1,812	5,000	330	31,150	3,738
Perch, yellow	2,460	350	7,026	841	650	45	24,650	2,958

[1] Includes Baltimore City.

Yield of Shore Fisheries of Maryland for 1920—Continued.

BY FYKE NETS—Continued.

Species.	Anne Arundel.		Baltimore.		Caroline.		Cecil.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Pike or pickerel	425	$85	3,055	$639			7,300	$1,826
Shad					1,257	$284	600	105
Squeteagues or "sea trout"			57	6				
Striped bass			75	15	750	135	3,050	610
Suckers							1,000	80
Sunfish			200	1			3,500	35
Turtles							300	15
Total	19,810	1,295	80,755	5,690	10,887	910	110,175	13,460

Species.	Charles.		Dorchester.		Harford.		Kent.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives			1,700	$17			1,640	$41
Black bass	485	$85			700	$175	7,200	1,790
Carp	4,750	142					11,925	387
Catfish	16,300	666	300	30	2,500	225	18,850	1,885
Croaker							1,000	30
Eels, fresh	320	26			100	7	5,250	461
Mullet					100	5	7,000	272
Perch, white	330	23	146	22	2,900	348	16,200	1,944
Perch, yellow	4,800	310	160	16	2,800	336	18,100	2,171
Pike or pickerel	2,650	510			1,900	475	5,400	1,352
Squeteagues or "sea trout"							100	6
Striped bass	200	40					8,875	1,753
Sunfish							1,000	10
Turtles							500	25
Total	29,835	1,802	2,306	85	11,000	1,571	103,040	12,127

Species.	Prince Georges.		Queen Annes.		St. Marys.		Somerset.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives							7,127	$103
Black bass	750	$150	600	$120			247	37
Carp	900	100	3,675	255				
Catfish	3,000	130	7,505	448	200	$10	4,500	380
Croaker							7,025	217
Eels, fresh			900	77				
Eels, salted			250	25				
Flounders					50	3		
Mullet			1,220	63				
Perch, white			2,750	229	100	9	930	111
Perch, yellow	1,700	135	41,900	3,775	240	19		
Pike or pickerel	335	50	550	135			155	20
Shad							760	133
Squeteagues or "sea trout"							4,617	277
Striped bass			310	62			300	45
Turtles			395	19			800	40
Total	6,685	565	60,055	5,208	590	41	26,461	1,363

Species.	Talbot.		Wicomico.		Worcester.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives	650	$10	6,285	$105	134,670	$4,040	159,457	$4,524
Black bass							16,053	3,855
Carp	90	5					28,060	1,274
Catfish	265	21	1,900	190			126,146	7,792
Croaker					70,300	1,929	78,325	2,176
Eels, fresh							18,917	1,773
Eels, salted							250	25
Flounders							50	3
Gizzard shad							1,525	32
Mullet							12,895	523
Perch, white	1,300	130	605	90	2,874	575	83,953	9,491
Perch, yellow	215	17	65	10			104,766	10,984
Pike or pickerel							21,770	5,091
Shad	340	71					2,957	593
Squeteagues or "sea trout"			450	45	26,670	850	31,894	1,184
Striped bass	175	35	525	105			14,260	2,800
Suckers							1,000	80
Sunfish							4,700	46
Turtles							1,995	99
Total	3,035	289	9,830	545	234,514	7,394	708,978	52,345

YIELD OF SHORE FISHERIES OF MARYLAND FOR 1920—Continued.

BY OTTER TRAWLS, STOP NETS, SLAT TRAPS OR BASKETS, BOW NETS, AND HAND.

Apparatus and species.	Anne Arundel.		Harford.		Somerset.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Stop nets: Carp	3,000	$330				
Slat traps or baskets:						
Alewives			20,000	$500		
Carp			443	23		
Catfish			430	5		
Eels			100	10		
Shad			558	107		
Striped bass			100	20		
Suckers			1,000	80		
Total			22,631	745		
Hand: Terrapin					618	$865

Apparatus and species.	Wicomico.		Worcester.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Otter trawls:						
Catfish	4,000	$400			4,000	$400
Carp	60	9			60	9
Perch, white	2,000	300			2,000	300
Perch, yellow	500	45			500	45
Striped bass	100	20			100	20
Total	6,660	774			6,660	774
Stop nets: Carp					3,000	330
Slat traps or baskets:						
Alewives					20,000	500
Carp					443	23
Catfish					430	5
Eels					100	10
Shad					558	107
Striped bass					100	20
Suckers					1,000	80
Total					22,631	745
Bow nets:						
Catfish	1,300	130			1,300	130
Perch, white	2,266	340			2,266	340
Shad			12,500	$2,225	12,500	2,225
Striped bass	1,385	270			1,385	270
Total	4,951	740	12,500	2,225	17,451	2,965
Hand: Terrapin					618	865

BY LINES.

Species.	Anne Arundel.		Baltimore.[1]		Calvert.		Charles.		Dorchester.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Bluefish									120	$24
Croaker	2,000	$120			600	$30			3,120	156
Eels									50	6
Perch, white	500	50							310	31
Perch, yellow									10	1
Spot	500	30								
Squeteagues or "sea trout"	1,200	100			100	10			2,620	262
Striped bass	300	65			100	10			690	138
Yellowtail or "silver perch"									400	40
Crabs, hard	753,095	30,730	77,730	$4,105	73,125	2,800	137,575	$4,815	1,128,557	70,004
Crabs, soft	8,000	3,225	820	325					7,897	947
Turtles							1,000	45		
Total	765,595	34,320	78,550	4,430	73,925	2,850	138,575	4,860	1,143,774	71,609

[1] Includes Baltimore City.

YIELD OF SHORE FISHERIES OF MARYLAND FOR 1920—Continued.

BY LINES—Continued.

Species.	Harford.		Kent.		Queen Annes.		St. Marys.		Somerset.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Croaker							175	$10	10,500	$210
Flounders									1,330	40
Perch, white							500	40	9,200	92
Spot									857	60
Squeteagues or "sea trout"							825	50	13,150	526
Crabs, hard	6,000	$300	440,000	$19,225	143,125	$4,660	217,000	7,280	191,059	14,299
Total	6,000	300	440,000	19,225	143,125	4,660	218,500	7,380	226,096	15,227

Species.	Talbot.		Wicomico.		Worcester.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Bluefish					55,670	$13,918	55,790	$13,942
Bonito					21,400	1,284	21,400	1,284
Catfish			16,700	$1,780			16,700	1,780
Croaker					7,600	190	23,995	716
Eels							50	6
Flounders					9,300	465	10,630	505
Perch, white							10,510	213
Perch, yellow							10	1
Scup					28,580	1,143	28,580	1,143
Sea bass					41,300	3,304	41,300	3,304
Spot							1,357	90
Squeteagues or "sea trout"					5,150	155	23,045	1,103
Striped bass							1,090	213
Yellowtail or "silver perch"							400	40
Crabs, hard	1,273,375	$42,823	36,167	2,170	96,000	2,160	4,572,808	205,371
Crabs, soft							16,717	4,497
Turtles							1,000	45
Total	1,273,375	42,823	52,867	3,950	265,000	22,619	4,825,382	234,253

BY DIP NETS, EEL POTS, AND SPEARS.

Apparatus and species.	Anne Arundel.		Baltimore.[1]		Calvert.		Cecil.		Charles.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Dip nets:										
Alewives							360	$18		
Shad							568	135		
Crabs, soft	55,187	$15,460			32,058	$7,095				
Total	55,187	15,460			32,058	7,095	928	153		
Eel pots:										
Eels, fresh	6,000	600	11,450	$1,060			400	40	5,650	$710
Total	6,000	600	11,450	1,060			400	40	5,650	710

Apparatus and species.	Dorchester.		Harford.		Kent.		Queen Annes.		St. Marys.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Dip nets:										
Alewives			720	$18						
Crabs, hard	4,902	$442								
Crabs, soft	21,735	2,648							105,425	$18,495
Total	26,637	3,090	720	18					105,425	18,495
Eel pots:										
Eels, fresh	70,833	8,460	3,200	320	6,900	$528	5,350	$535	1,450	124
Eels, salted	27,400	2,740					3,800	380		
Total	98,233	11,200	3,200	320	6,900	528	9,150	915	1,450	124

[1] Includes Baltimore City.

YIELD OF SHORE FISHERIES OF MARYLAND FOR 1920—Continued.

BY DIP NETS, EEL POTS, AND SPEARS—Continued.

Apparatus and species.	Somerset.		Wicomico.		Worcester.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Dip nets:								
Alewives							1,080	$36
Shad							568	135
Crabs, hard	395,984	$28,892					400,886	29,334
Crabs, soft	1,201,405	144,226					1,415,810	187,924
Total	1,597,389	173,118					1,818,344	217,429
Eel pots:								
Eels, fresh	9,393	1,309	1,250	$150	2,150	$430	124,026	14,266
Eels, salted							31,200	3,120
Total	9,393	1,309	1,250	150	2,150	430	155,226	17,386
Spears: Eels, fresh	8,272	1,132			2,125	256	10,397	1,388

BY SCRAPES, DREDGES, TONGS, AND NIPPERS.

Apparatus and species.	Anne Arundel.		Calvert.		Charles.		Dorchester.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Scrapes:							2,925	$227
Crabs, hard							130,499	16,129
Crabs, soft								
Total							133,424	16,356
Dredges: Oysters, market, public					29,750	$2,265	1,073,436	75,756
Tongs and nippers:								
Oysters, market, public	2,006,200	$121,876	750,505	$79,560	343,700	26,100	2,012,899	170,729
Oysters, market, private	23,450	1,990	105,525	12,250	102,900	7,625	158,900	14,755
Total	2,029,650	123,866	856,030	91,810	446,600	33,725	2,171,799	185,484

Apparatus and species.	Kent.		Queen Annes.		St. Marys.		Somerset.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Scrapes:							170,371	$12,097
Crabs, hard							2,151,113	258,133
Crabs, soft								
Total							2,321,484	270,230
Dredges: Oysters, market, public					487,620	$35,045	614,313	65,012
Tongs and nippers:								
Oysters, market, public	953,540	$40,866	1,843,100	$105,320	1,305,220	102,900	1,332,457	143,400
Oysters, market, private					133,420	8,210	264,124	28,156
Clams, hard							4,200	1,475
Total	953,540	40,866	1,843,100	105,320	1,438,640	111,110	1,600,781	173,031

Apparatus and species.	Talbot.		Wicomico.		Worcester.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Scrapes:							173,296	$12,324
Crabs, hard							2,281,612	74,262
Crabs, soft								
Total							1,454,908	286,586
Dredges: Oysters, market, public	82,390	$3,556					2,287,509	181,634
Tongs and nippers:								
Oysters, market, public	4,409,475	188,977	935,172	$80,501	152,894	$14,981	16,045,162	1,075,210
Oysters, market, private	29,050	1,245	878,500	63,750	182,847	41,794	1,878,716	179,775
Clams, hard					26,000	9,100	30,200	10,575
Total	4,438,525	190,222	1,813,672	144,251	361,741	65,875	17,954,078	1,265,560

INDUSTRIES.

Salt-fish industry.—Alewives are the only species of importance salted in Maryland, the output in 1920 amounting to 1,957,717 pounds, valued at $69,483. The number of firms engaged was as follows: In Talbot County, 7; in Dorchester and Harford, 2 each; and in St. Marys and Somerset Counties, one each. Squeteagues to the value of $2,500 were also salted by a firm in another county.

Canning industry.—The pack of fishery products in cans in Maryland in 1920 amounted to 185,765 cases, valued at $851,576, of which 172,674 cases, valued at $784,569, were canned oysters. Small quantities of alewives and roe and squeteague roe were also canned. Of the total pack of canned fishery products, 147,516 cases, valued at $640,811, are credited to Baltimore City.

By-products.—The most important source of by-products in Maryland is the oyster shell-crushing industry, which yielded 45,756 tons of poultry grit, valued at $617,952, and 23,403 tons of lime, valued at $187,899. This industry is confined largely to Baltimore City. In addition there were produced 571 tons of dry scrap, valued at $21,855, and fish oil to the value of $600.

Wholesale trade.—In 1920 there were 345 wholesale fishery establishments in Maryland, valued at $3,460,653, with a cash capital amounting to $945,750, and engaging 8,502 persons, to whom $2,147,830 were paid in wages.

The important features of each of the above shore industries are shown in the appended tables.

QUANTITY AND VALUE OF FISHERY PRODUCTS CANNED IN MARYLAND IN 1920.

Products canned.	Baltimore City.		Remainder of State.		Total.	
	Number.	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
Oysters:						
4-ounce (4 dozen to case)....cases..	16,333	$45,898	5,000	$31,800	21,333	$77,698
5-ounce (4 dozen to case)....do....	82,043	340,858	18,844	105,177	100,887	446,035
6-ounce (4 dozen to case)....do....	11,505	50,202	.....	.....	11,505	50,202
7-ounce (2 dozen to case)....do....	.....	.....	262	900	262	900
8-ounce (2 dozen to case)....do....	5,679	29,030	.....	.....	5,679	29,030
10-ounce (2 dozen to case)....do....	31,856	174,063	1,052	5,881	32,908	179,944
12-ounce (2 dozen to case)....do....	100	760	.....	.....	100	760
Total....	147,516	640,811	25,158	143,758	172,674	784,569
Alewife roe:						
No. 1 (4 dozen to case)....cases..	.....	.....	6,624	42,143	6,624	42,143
No. 2 (2 dozen to case)....do....	.....	.....	4,791	21,177	4,791	21,177
Total....	.....	.....	11,415	63,320	11,415	63,320
Alewives and squeteague roe Nos. 1 and 2,[1] cases....	.....	.....	1,676	3,687	1,676	3,687
Grand total....	147,516	640,811	38,249	210,765	185,765	851,576

[1] No. 1 cans are packed four dozen to a case and No. 2 cans two dozen to a case.

QUANTITY AND VALUE OF BY-PRODUCTS MANUFACTURED FROM FISHERY PRODUCTS IN BALTIMORE CITY AND VARIOUS COUNTIES IN MARYLAND IN 1920.

By-products.	Baltimore City.		Anne Arundel County.		Dorchester County.		Charles, Somerset, Talbot, and Wicomico Counties.		Total.	
	Number.	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
Ground oyster shells:										
Poultry grit..tons..	40,368	$566,072					[1] 5,388	$51,880	45,756	$617,952
Lime.....do....	14,264	116,924	1,560	$4,840	2,464	$14,867	5,115	51,268	23,403	187,899
Dry scrap.....do....							[2] 571	21,855	[2] 571	21,855
Oil from fish waste.....								600		600
Total.....		682,996		4,840		14,867		125,603		828,306

[1] Represents output of one plant each in Dorchester, Somerset, and Talbot Counties.
[2] Represents output of one plant in Dorchester, two plants in Somerset, and one plant in Talbot County, made from crab waste and fish cuttings.

INVESTMENT, PERSONS ENGAGED, AND WAGES PAID IN THE WHOLESALE FISHERY TRADE OF MARYLAND, 1920, BY LOCALITIES.

Localities.	Establishments.		Cash capital.	Number of persons engaged.	Wages paid.
	Number.	Value.			
Baltimore	78	$1,885,447	$146,450	2,015	$894,492
Crisfield, Lawsonia, and Smith Island	95	601,236	329,250	1,953	512,525
Cambridge	17	231,978	121,000	1,079	199,005
Oxford and Bellevue	12	137,071	33,900	349	53,842
St. Michaels and Claiborne	7	84,090	39,100	358	74,721
Tilghman Island	12	74,885	45,200	352	58,381
Annapolis and Eastport	11	58,535	16,300	297	65,516
Deal Island and Chance	15	38,059	50,650	425	51,543
Chester and Rock Hall	16	34,737	12,200	249	43,470
Hoopers Island	10	44,785	25,800	184	42,449
Bishops Head, Wingate, and Toddville	10	24,034	8,750	260	13,679
Mount Vernon and Marion	4	28,224	24,000	176	28,732
Wynne, Airedale, and Cornfield Harbor	5	5,900	4,400	73	16,550
Rock Point and Blackistone	3	34,350	4,500	91	16,575
Galloway	4	8,550	4,100	57	14,600
Whitehaven, Nanticoke, and Bivalve	4	7,620	3,650	134	14,700
Taylor Island	4	20,171	16,600	118	9,880
Havre de Grace, Perryville, and North East	5	9,900	1,900	43	6,792
Solomons, Plum Point, and Benedict	6	11,470	5,700	52	5,700
Fairmount, Inverness, and Rumbley	4	24,699	6,900	31	5,136
Shadyside	4	5,305	2,800	32	4,200
Mayo and Deale	3	37,100	4,200	92	2,925
Miscellaneous localities	16	52,507	38,400	82	12,417
Total	345	3,460,653	945,750	8,502	2,147,830

FISHERIES OF VIRGINIA.

In 1920 the number of persons engaged in the fisheries and related industries of Virginia was 19,378, of whom 1,995 were on fishing vessels, 563 on vessels transporting fishery products, 11,612 in the shore or boat fisheries, and 5,208 in the wholesale fishery trade, canning establishments, etc.

The amount of capital invested amounted to $10,709,499, which includes 448 fishing and transporting vessels, valued at $3,222,700, with a net tonnage of 9,883 tons and outfits valued at $704,068; 8,880 boats, valued at $1,188,136; fishing apparatus with a value of $1,255,891; shore and accessory property to the value of $3,561,449; and cash capital to the amount of $777,255.

The products of the fisheries amounted to 471,219,089 pounds, valued at $8,541,724. The species of chief importance arranged in the order of their value were as follows: Oysters, 27,744,983 pounds, or 3,963,569 bushels, valued at $2,349,161; menhaden, 366,379,425 pounds, valued at $2,158,518; shad, 7,293,805 pounds, valued at $1,145,106; squeteagues, or "sea trout," 12,908,502 pounds, valued at $654,521; crabs, 13,637,079 pounds, valued at $565,564; croaker, 16,372,134 pounds, valued at $513,975; alewives, 16,665,100 pounds, valued at $259,258; clams, 499,440 pounds, valued at $229,645; and butterfish, 3,018,842 pounds, valued at $136,894.

Compared with 1904 there was a decrease in the number of persons employed in the fisheries of Virginia of 9,490, or 32.87 per cent, but increases in the investment amounting to $6,094,565, or 132.06 per cent, in the quantity of products amounting to 115,903,291 pounds, or 32.61 per cent, and in the value of the products amounting to $2,957,370, or 52.95 per cent.

For comparative purposes the products of certain of the important fisheries of the State for various years beginning with 1890 are shown in the following table. It will be noted from an examination of this table that the catch of shad, alewives, and squeteagues has fluctuated to a lesser degree than the catch of the other important species. There has been a marked increase in the catch of butterfish, croaker, and menhaden, but a decrease in the catch of crabs and oysters.

PRODUCTS OF CERTAIN FISHERIES OF VIRGINIA, VARIOUS YEARS, 1890 TO 1921.

Species.	1890	1891	1897	1901	1904
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Alewives	10,641,698	11,013,485	13,689,510	13,913,444	14,603,866
Butterfish	138,753	120,000	465,828	1,071,860	1,335,391
Croaker	1,124,525	1,075,690	4,161,529	3,937,168	3,842,709
Menhaden	107,341,713	105,980,334	178,656,362	273,493,799	247,918,766
Shad	7,266,207	6,498,242	11,529,474	6,972,212	7,419,899
Squeteagues or "sea trout"	4,072,304	3,929,899	6,525,806	7,431,496	6,951,068
Crabs	3,025,104	2,794,027	6,399,514	7,401,701	12,266,706
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Oysters	6,074,025	6,162,086	7,023,848	6,067,669	7,612,289

Species.	1908	1915	1920	1921
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*
Alewives	37,885,000	16,054,130	16,665,100	18,834,164
Butterfish	725,000	.....	3,018,842	.....
Croaker	4,839,000	.....	16,372,134	.....
Menhaden	190,089,000	.....	366,379,425	.....
Shad	7,314,000	4,714,134	7,293,805	6,936,001
Squeteagues or "sea trout"	4,491,000	.....	12,908,502	.....
Crabs	25,083,000	20,249,386	13,637,079	.....
	Bushels.	*Bushels.*	*Bushels.*	
Oysters	5,075,000	[1] 6,206,098	3,963,569	.....

[1] The statistics for oysters are for 1912.

FISHERIES BY COUNTIES.

The following table shows the number of persons engaged, investment, and products of the fisheries of Virginia, by counties, in 1920:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF VIRGINIA IN 1920, BY COUNTIES.

Items.	Accomac.		Arlington.		Caroline.		Charles City.	
PERSONS ENGAGED	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	237							
On vessels transporting	116		5					
In shore fisheries	1,481		149		25		256	
Shoresmen	768							
Total	2,602		154		25		256	
INVESTMENT.								
Vessels fishing, steam	4	$253,869						
Tonnage	412							
Outfit		41,262						
Vessels fishing, gasoline	6	11,100						
Tonnage	67							
Outfit		3,698						
Vessels fishing, sail	15	11,625						
Tonnage	116							
Outfit		7,347						
Vessels transporting, gasoline	42	63,950	2	$6,100				
Tonnage	391		18					
Outfit		13,516		775				
Vessels transporting, sail	10	19,250						
Tonnage	203							
Outfit		2,875						
Boats, sail, row, etc	981	59,485	53	3,175	15	$300	158	$3,950
Boats, power	684	235,115	44	9,525			6	1,400
Apparatus, vessel fisheries:								
Purse seines	5	8,400						
Crab scrapes	24	172						
Oyster dredges	40	860						
Apparatus, shore fisheries:								
Haul seines	12	910	5	460			1	300
Gill nets	721	18,005	64	8,375	94	480	154	8,085
Pound nets and weirs	309	245,112			3	450		
Fyke nets	7	405	55	380	2	40	26	300
Dip nets	330	359						
Otter trawls	1	125						
Lines, hand and trot		1,595						
Eel pots	3	2					10	20
Crab scrapes	531	3,784						
Crab dredges	38	456						
Crab traps	13	18						
Tongs, rakes, and hoes	1,106	8,167						
Oyster dredges	110	1,775						
Scallop dredges	198	1,464						
Shore and accessory property		301,367		400				100
Cash capital		150,105						
Total		1,466,173		29,190		1,270		14,155
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	839,724	$12,524			10,800	$342	109,000	$1,680
Black drum	59,480	787						
Bluefish	57,595	9,837						
Bonito	134,750	8,413						
Butterfish	765,270	35,125						
Carp			1,795	$160	280	14	25,700	2,020
Catfish			16,300	795	500	25	22,200	1,688
Croaker	2,814,745	104,739						
Eels	5,550	1,350					2,000	120
Flounders	60,710	2,569						
Goldfish			4,050	380				
Hickory shad	4,120	211			4,500	180		
King whiting	15,443	1,280						
Mackerel	70,417	8,450						
Menhaden	41,280,950	259,116						
Mullet	223,163	4,555	1,820	185				
Perch, white			1,325	123	2,070	194	5,020	498
Perch, yellow			2,150	175			500	50
Pigfish	25,600	600						

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF VIRGINIA IN 1920, BY COUNTIES—Continued.

Items.	Accomac.		Arlington.		Caroline.		Charles City.	
PRODUCTS—continued.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Pompano	4,200	$1,000						
Redfish or red drum	87,510	3,365						
Scup	12,625	600						
Sea bass	10,375	830						
Shad	416,667	77,172	80,282	$15,288	7,682	$989	306,500	$56,770
Sheepshead	30	6						
Spanish mackerel	18,630	2,720						
Spot	136,521	3,943						
Squeteagues or "sea trout"	4,241,097	210,195						
Striped bass	17,394	1,225	140	35	500	100	300	60
Sturgeon	10,579	3,319						
Sturgeon caviar	1,375	4,685						
Crabs, hard	776,475	32,616						
Crabs, soft	944,807	120,688						
Squid	42,150	1,475						
Clams, hard	325,176	169,897						
Oysters, market, public	1,126,643	111,984						
Oysters, market, private	1,998,997	203,120						
Oysters, seed, public	213,500	8,825						
Oysters, seed, private	140,000	2,450						
Scallops	101,760	21,352						
Terrapin	248	360						
Turtles	780	39						
Cabomba			900	90				
Total	56,985,056	1,431,422	108,762	17,231	26,332	1,844	471,220	62,886

Items.	Chesterfield.		Dinwiddie.		Elizabeth City.		Essex.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing					78			
On vessels transporting					24			
In shore fisheries	23		40		367		222	
Shoresmen					527		31	
Total	23		40		996		253	
INVESTMENT.								
Vessels, fishing, steam					2	$20,000		
Tonnage					39			
Outfit						5,200		
Vessels fishing, gasoline					19	78,500		
Tonnage					177			
Outfit						21,695		
Vessels transporting, gasoline					5	12,500		
Tonnage					64			
Outfit						1,550		
Vessels transporting, sail					5	8,200		
Tonnage					157			
Outfit						825		
Boats, sail, row, etc	11	$300	20	$500	68	2,060	86	$2,500
Boats, power	1	200	1	100	100	44,650	33	8,300
Apparatus, vessel fisheries:								
Crab dredges					26	1,140		
Oyster dredges					28	1,155		
Apparatus, shore fisheries:								
Haul seines			1	200			3	225
Gill nets	11	825	40	380	8	140	370	1,080
Pound nets and weirs					201	29,550	6	375
Fyke nets	7	105	11	22				
Stop nets			4	120				
Lines, hand and trot				100		650		
Eel pots					6	12		
Crab dredges					6	240		
Tongs, rakes, and hoes					52	475	101	1,010
Oyster dredges					4	180		
Shore and accessory property				100		326,234		3,500
Cash capital						83,000		400
Total		1,430		1,522		637,956		17,390

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF VIRGINIA IN 1920, BY COUNTIES—Continued.

Items.	Chesterfield.		Dinwiddie.		Elizabeth City.		Essex.	
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	6,000	$120	100,000	$3,000	1,120,000	$8,750	5,350	$164
Bluefish					6,870	1,374		
Bonito					200	40		
Butterfish					694,400	20,832		
Carp	1,000	60	3,000	180				
Catfish	1,200	72	27,600	1,862			4,200	170
Crevallé					269,800	8,094		
Croaker					4,465,600	110,824		
Eels					2,200	176		
Flounders					28,900	1,156		
Gizzard shad							1,500	60
Hickory shad					30,700	1,360	1,900	72
King whiting					4,700	470		
Menhaden					9,600	48		
Mullet					40,000	2,000		
Perch, white	100	8			7,900	378	7,300	406
Pigfish					4,880	538		
Pike or pickerel			740	138				
Pompano					200	70		
Redfish or red drum					500	5		
Scup					4,350	335		
Sea bass					1,100	92		
Shad	37,000	6,900	14,800	2,760	408,600	54,210	10,325	1,328
Sheepshead					50	6		
Spanish mackerel					5,900	885		
Spot					142,400	7,444		
Squeteagues or "sea trout"					2,076,000	104,180		
Striped bass	200	40			9,700	1,940	10,350	2,070
Sturgeon					5,250	1,050		
Sturgeon caviar					544	1,800		
Crabs, hard					2,038,900	67,759		
Clams, hard					13,600	5,100		
Oysters, market, public					157,500	11,025	180,950	18,095
Oysters, market, private					2,273,754	204,360	190,400	19,040
Oysters, seed, public					548,100	19,575		
Turtles					7,500	125		
Total	45,500	7,200	146,140	7,940	14,379,698	636,001	412,275	41,405

Items.	Fairfax.		Gloucester.		Henrico.		Isle of Wight.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing			5				2	
On vessels transporting			40				8	
In shore fisheries	77		584		60		273	
Shoresmen							71	
Total	77		629		60		354	
INVESTMENT.								
Vessels fishing, gasoline			2	$1,850			1	$700
Tonnage			12				6	
Outfit				350				50
Vessels transporting, gasoline			18	22,600			4	4,600
Tonnage			168				39	
Outfit				3,300				1,000
Vessels transporting, sail			2	1,800				
Tonnage			22					
Outfit				245				
Boats, sail, row, etc	50	$1,745	264	7,650	60	$1,500	29	675
Boats, power	18	3,525	194	54,825			145	38,050
Apparatus, vessel fisheries:								
Oyster dredges			2	50			1	30
Tongs			2	12				
Apparatus, shore fisheries:								
Haul seines	5	685					2	350
Gill nets	30	3,340	131	480	45	1,125	5,557	13,974
Pound nets and weirs			102	38,050			4	1,500
Fyke nets	353	2,405	25	1,010	20	40	80	4,200
Lines, hand and trot				595				18
Slat traps or baskets					40	600		
Eel pots							55	100

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF VIRGINIA IN 1920, BY COUNTIES—Continued.

Items.	Fairfax.		Gloucester.		Henrico.		Isle of Wight.	
INVESTMENT—continued.								
Apparatus, shore fisheries—Continued.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
Tongs, rakes, and hoes	.....	.....	313	$2,378	.....	.....	188	$1,260
Oyster dredges	.....	.....	2	50	.....	.....	.....	.....
Shore and accessory property	.....	$450	.....	3,125	.....	.....	.....	15,400
Cash capital	.....	.....	.....	.....	.....	.....	.....	5,000
Total	.....	12,150	.....	138,370	.....	$3,265	.....	86,917
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	.....	.....	1,068,800	$13,360	675,000	$13,400	75,000	$1,870
Butterfish	.....	.....	48,660	1,460	.....	.....	300	12
Carp	11,900	$1,145	.....	.....	2,000	200	10,250	489
Catfish	126,085	7,325	1,775	89	11,600	536	10,700	370
Crevallé	.....	.....	171,600	5,148	.....	.....	200	8
Croaker	.....	.....	1,981,300	59,439	.....	.....	141,060	4,231
Eels	12,390	815	.....	.....	.....	.....	11,550	1,045
Flounders	.....	.....	11,461	457	.....	.....	5,400	324
Gizzard shad	.....	.....	.....	.....	.....	.....	13,400	268
Hickory shad	.....	.....	.....	.....	36,000	1,440	.....	.....
Mullet	.....	.....	2,750	138	.....	.....	1,800	180
Perch, white	8,950	915	1,381	75	12,000	960	12,429	1,242
Perch, yellow	16,060	1,385	.....	.....	.....	.....	.....	.....
Pigfish	.....	.....	30	5	.....	.....	.....	.....
Pike or pickerel	275	55	.....	.....	.....	.....	.....	.....
Shad	93,705	19,150	241,294	31,568	.....	.....	222,224	41,325
Spanish mackerel	.....	.....	10	1	.....	.....	.....	.....
Spot	.....	.....	29,295	1,450	.....	.....	600	48
Squeteagues or "sea trout"	.....	.....	1,324,990	66,250	.....	.....	38,250	3,330
Striped bass	3,625	725	16,950	3,156	.....	.....	14,880	2,976
Sturgeon	.....	.....	1,650	330	.....	.....	.....	.....
Sturgeon caviar	.....	.....	295	738	.....	.....	.....	.....
Crabs, hard	.....	.....	962,666	25,980	.....	.....	6,250	200
Clams, hard	.....	.....	4,928	1,944	.....	.....	.....	.....
Oysters, market, public	.....	.....	240,590	25,634	.....	.....	525,000	33,750
Oysters, market, private	.....	.....	957,579	103,973	.....	.....	137,585	9,827
Oysters, seed, public	.....	.....	14,000	500	.....	.....	1,183,700	42,275
Total	272,990	31,515	7,082,004	341,695	736,600	16,536	2,410,578	143,770

Items.	James City.		King George.		King and Queen.		King William.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels transporting	8	.....	2	.....	2	.....	17	.....
In shore fisheries	68	.....	125	.....	139	.....	139	.....
Shoresmen	.....	.....	.....	.....	.....	.....	135	.....
Total	76	.....	127	.....	141	.....	291	.....
INVESTMENT.								
Vessels transporting, gasoline	1	$1,000	1	$800	1	$1,000	4	$11,500
Tonnage	7	.....	19	.....	7	.....	45	.....
Outfit	.....	200	.....	175	.....	200	.....	2,100
Vessels transporting, sail	2	2,200	.....	.....	.....	.....	3	8,500
Tonnage	31	.....	.....	.....	.....	.....	78	.....
Outfit	.....	200	.....	.....	.....	.....	.....	1,250
Boats, sail, row, etc	69	2,350	64	1,320	126	4,765	91	3,125
Boats, power	13	3,550	30	5,800	4	1,700	12	6,200
Apparatus, shore fisheries:								
Haul seines	2	600	2	550	.....	.....	.....	.....
Gill nets	1,880	6,415	336	4,140	420	1,620	276	1,200
Pound nets and weirs	1	50	32	4,145	.....	.....	.....	.....
Fyke nets	107	3,760	77	890	6	180	32	1,005
Lines, hand and trot	.....	.....	.....	50	.....	90	.....	60
Eel pots	74	152	.....	.....	.....	.....	36	54
Tongs, rakes, and hoes	13	86	19	116	32	220	26	150
Oyster dredges	.....	.....	.....	.....	.....	.....	2	50
Shore and accessory property	.....	2,500	.....	950	.....	.....	.....	108,300
Cash capital	.....	.....	.....	.....	.....	.....	.....	31,000
Total	.....	23,063	.....	18,936	.....	9,775	.....	174,494

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF VIRGINIA IN 1920, BY COUNTIES—Continued.

Items.	James City.		King George.		King and Queen.		King William.	
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	80,000	$3,200	155,630	$4,822	.....	.....	2,000	$50
Carp	21,800	1,454	5,755	258	.....	.....	.....	.....
Catfish	61,300	4,716	37,100	2,062	6,300	$378	35,000	2,100
Croaker	2,400	195	.....	.....	2,400	96	11,025	441
Eels	13,650	1,099	100	8	.....	.....	8,000	640
Flounders	6,190	592	.....	.....	120	10	750	60
Gizzard shad	6,100	183	.....	.....	.....	.....	.....	.....
Hickory shad	.....	.....	4,560	137	.....	.....	.....	.....
Mullet	3,000	300	.....	.....	.....	.....	.....	.....
Perch, white	7,900	790	23,440	2,198	120	12	350	35
Perch, yellow	200	16	8,475	660	.....	.....	.....	.....
Pike or pickerel	.....	.....	4,025	780	.....	.....	.....	.....
Shad	133,132	22,208	61,895	10,886	142,051	32,941	45,521	7,466
Squeteagues or "sea trout"	3,900	390	10,200	2,470	1,200	120	7,000	700
Striped bass	21,950	4,390	21,835	4,600	500	100	6,500	1,300
Sturgeon	2,240	580	.....	.....	.....	.....	.....	.....
Sturgeon caviar	237	691	.....	.....	.....	.....	.....	.....
Suckers	1,300	39	.....	.....	.....	.....	.....	.....
Crabs, hard	.....	.....	64,375	2,060	56,250	1,350	18,750	450
Oysters, market, public	.....	.....	51,310	3,600	18,900	1,790	.....	.....
Oysters, market, private	378,000	40,500	.....	.....	420,000	45,500	539,000	58,707
Total	743,299	81,343	448,700	34,541	647,841	82,297	673,896	71,949

Items.	Lancaster.		Mathews.		Middlesex.		Nansemond.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	357	.....	9	.....	3	.....	.....	.....
On vessels transporting	56	.....	46	.....	26	.....	21	.....
In shore fisheries	998	.....	1,161	.....	1,096	.....	137	.....
Shoresmen	802	.....	61	.....	172	.....	30	.....
Total	2,213	.....	1,277	.....	1,297	.....	188	.....
INVESTMENT.								
Vessels fishing, steam	6	$268,000	.....	.....	.....	.....	.....	.....
Tonnage	702	.....	.....	.....	.....	.....	.....	.....
Outfit	.....	68,000	.....	.....	.....	.....	.....	.....
Vessels fishing, gasoline	10	217,050	2	$2,300	1	$2,000	.....	.....
Tonnage	462	.....	11	.....	7	.....	.....	.....
Outfit	.....	57,290	.....	800	.....	400	.....	.....
Vessels transporting, gasoline	22	26,000	16	41,400	8	18,100	12	$15,200
Tonnage	199	.....	165	.....	115	.....	117	.....
Outfit	.....	6,775	.....	11,686	.....	2,660	.....	2,400
Vessels transporting, sail	2	1,600	4	10,500	5	14,500	.....	.....
Tonnage	25	.....	83	.....	115	.....	.....	.....
Outfit	.....	75	.....	2,300	.....	500	.....	.....
Boats, sail, row, etc	156	4,875	497	15,065	161	5,250	33	925
Boats, power	388	103,180	334	100,525	407	79,725	58	17,600
Apparatus, vessel fisheries:								
Purse seines	12	28,900	.....	.....	.....	.....	.....	.....
Crab dredges	.....	.....	2	60	.....	.....	.....	.....
Oyster dredges	.....	.....	8	350	.....	.....	.....	.....
Tongs	6	110	.....	.....	2	40	.....	.....
Apparatus, shore fisheries:								
Haul seines	.....	.....	.....	.....	2	100	.....	.....
Gill nets	.....	.....	11	475	.....	.....	1,530	3,825
Pound nets and weirs	185	49,925	428	133,100	7	2,450	.....	.....
Fyke nets	13	1,200	.....	.....	.....	.....	44	2,050
Dip nets	74	47	.....	.....	.....	.....	.....	.....
Lines, hand and trot	.....	105	.....	1,288	.....	321	.....	.....
Tongs, rakes, and hoes	540	6,614	576	5,714	635	7,890	133	804
Oyster dredges	.....	.....	4	100	.....	.....	.....	.....
Shore and accessory property	.....	609,058	.....	24,650	.....	17,300	.....	9,950
Cash capital	.....	57,150	.....	3,200	.....	2,900	.....	10,000
Total	.....	1,505,954	.....	353,513	.....	154,136	.....	62,754

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF VIRGINIA IN 1920, BY COUNTIES—Continued.

Items.	Lancaster.		Mathews.		Middlesex.		Nansemond.	
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	2,060,353	$46,580	3,057,900	$39,034	72,500	$1,900	38,225	$1,015
Alewives, salted	20,000	500						
Bluefish	2,190	438	3,556	675				
Butterfish	20,200	1,175	361,995	10,860			495	24
Carp							4,015	138
Catfish							900	45
Crevallé			74,703	2,239			495	24
Croaker	151,750	5,812	1,803,955	45,863	24,500	1,225	85,500	2,565
Eels	8,400	1,680					775	44
Flounders	6,100	445	4,780	190	450	38	5,300	318
Gizzard shad			52,570	2,103				
Hickory shad	600	24						
King whiting			260	27				
Menhaden	105,417,065	411,498						
Mullet			2,680	176				
Perch, white	4,200	420					6,000	600
Pigfish			350	53				
Scup							215	42
Shad	526,129	82,019	2,295,730	305,916	22,554	2,900	77,197	14,275
Spanish mackerel			2,479	373				
Spot	6,700	356	71,347	4,000	450	23		
Squeteagues or "sea trout"	59,150	3,113	1,375,230	68,834	34,500	3,150	5,750	288
Striped bass	33,025	6,651	9,035	1,807	400	80	9,350	1,870
Sturgeon	1,040	312	1,815	403				
Sturgeon caviar			314	948				
Crabs, hard	211,900	6,357	926,200	28,138	622,700	18,681	200	75
Crabs, soft	45,760	8,081						
Clams, hard			46,640	17,075				
Oysters, market, public	1,094,835	131,612	661,262	70,320	2,118,340	236,321	873,600	56,360
Oysters, market, private	329,238	38,878	453,432	46,695	7,350	735	398,685	28,450
Oysters, seed, public							722,750	25,813
Total	109,998,635	745,951	11,206,233	645,729	2,903,744	265,053	2,229,452	131,946

Items.	New Kent.		Norfolk.		Northampton.		Northumberland.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing			19		93		1,037	
On vessels transporting			46		43		25	
In shore fisheries	204		333		562		1,148	
Shoresmen			938		474		1,037	
Total	204		1,336		1,172		3,247	
INVESTMENT.								
Vessels fishing, steam					3	$123,750	30	$1,566,406
Tonnage					246		3,319	
Outfit						19,250		352,849
Vessels fishing, gasoline			5	$22,000			10	60,375
Tonnage			73				166	
Outfit				5,600				5,700
Vessels fishing, sail							11	6,850
Tonnage							102	
Outfit								2,760
Vessels transporting, gasoline			21	58,500	18	16,300	23	39,650
Tonnage			192		156		186	
Outfit				12,580		5,215		11,165
Vessels transporting, sail			2	3,000	2	3,400	9	33,050
Tonnage			63		25		506	
Outfit				300		775		2,995
Boats, sail, row, etc	149	$3,835	192	4,575	439	15,811	863	21,765
Boats, power	13	2,350	72	21,050	68	43,795	244	69,715
Apparatus, vessel fisheries:								
Purse seines					3	7,500	30	77,000
Crab dredges			2	75				
Oyster dredges			14	570			64	870
Apparatus, shore fisheries:								
Haul seines	5	1,100	15	8,550	10	1,675		
Gill nets	317	2,750	80	1,105	20	1,110	2	350
Pound nets and weirs	2	100	18	18,900	55	188,270	281	128,775

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF VIRGINIA IN 1920, BY COUNTIES—Continued.

Items.	New Kent.		Norfolk.		Northampton.		Northumberland.	
INVESTMENT—contd.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
Fyke nets							2	$25
Dip nets							457	152
Lines, hand and trot		$50		$540		$1,020		534
Eel pots							110	215
Eel spears					2	10		
Tongs, rakes, and hoes	2	12	149	902	292	1,191	366	2,103
Oyster dredges							54	850
Scallop dredges					106	780		
Shore and accessory property		850		744,072		298,562		1,046,779
Cash capital				215,000		40,850		169,100
Total		11,047		1,117,319		769,264		3,600,033
PRODUCTS.	*Pounds*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	260,000	$11,400	69,000	$1,380	21,000	$210	5,726,586	$77,184
Alewives, salted	10,000	400						
Black drum					500	5		
Bluefish			2,480	406	101,538	13,803	970	101
Bonito			425	65	46,915	4,675		
Butterfish			85,950	5,097	698,047	49,600	16,675	900
Carp							4,000	160
Catfish	50,000	4,000					1,100	40
Crevallé			37,900	1,650	18,250	730		
Croaker			256,000	9,625	1,632,050	75,962	688,000	7,482
Eels			50	1	1,085	250	16,870	2,358
Flounders			51,250	3,746	26,279	690	10,724	448
Hickory shad			1,600	80			20,390	883
King whiting			4,700	308	2,971	445		
Menhaden					12,025,500	23,894	207,598,310	1,463,722
Mullet			141,300	5,995	8,870	1,400		
Ocean sunfish					100	20		
Perch, white			28,350	2,460			2,455	250
Pigfish			12,010	562	7,820	298		
Pompano					1,150	240		
Redfish or red drum			2,400	48	22,800	238		
Scup					17,700	1,416		
Sea bass			4,000	400	3,500	105		
Shad	211,741	32,322	63,358	6,747	11,363	2,258	1,281,488	218,070
Sheepshead					825	126		
Spanish mackerel			250	33	4,435	665		
Spot			260,800	26,098	43,638	3,095	18,115	1,075
Squeteagues or "sea trout"			303,600	19,480	1,813,120	92,047	436,450	11,147
Striped bass	200	40	420	84	3,225	1,140	49,330	8,241
Sturgeon			5,260	1,043	47,650	6,748	500	102
Sturgeon caviar			850	2,475	1,350	4,132		
Sturgeon roe							101	150
Yellowtail or "silver perch"			2,500	75				
Crabs, hard			1,206,075	41,951	664,151	22,120	545,065	20,068
Crabs, soft					19,862	3,125	144,748	30,625
Clams, hard			4,872	2,085	72,472	21,508		
Oysters, market, public			735,000	57,750	214,550	17,808	566,972	55,350
Oysters, market, private	9,100	1,000	1,057,581	95,911	1,457,631	123,076	412,510	46,540
Oysters, seed, public					283,500	8,100		
Scallops					12,000	5,500		
Turtles	10,000	1,000						
Frogs	480	120						
Alewife scales							10,203	1,055
Total	551,521	50,282	4,337,981	285,555	19,285,849	485,429	217,551,562	1,946,451

Items.	Princess Anne.		Prince George.		Prince William.		Richmond.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing					5		4	
On vessels transporting							12	
In shore fisheries	309		70		78		239	
Shoresmen							95	
Total	309		70		83		350	

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF VIRGINIA IN 1920, BY COUNTIES—Continued.

Items.	Princess Anne.		Prince George.		Prince William.		Richmond.	
INVESTMENT.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
Vessels fishing, gasoline							2	$850
Tonnage							10	
Outfit								200
Vessels fishing, sail					1	$200		
Tonnage					6			
Outfit						125		
Vessels transporting, gasoline							6	6,350
Tonnage							51	
Outfit								1,100
Boats, sail, row, etc	164	$5,610	41	$1,350	16	845	94	2,710
Boats, power	60	12,600	7	1,400	36	6,550	51	11,600
Apparatus, vessel fisheries:								
Haul seines					1	150		
Tongs							2	40
Apparatus, shore fisheries:								
Haul seines	92	13,850			3	350	1	50
Gill nets	11	330	34	2,550	37	4,085	1,403	2,874
Pound nets and weirs	5	10,200					71	8,280
Fyke nets	15	225	33	495	79	570	5	25
Lines, hand and trot		350						
Eel pots			32	64	55	190		
Tongs, rakes, and hoes	63	441					93	930
Shore and accessory property		6,090				160		12,150
Cash capital								2,300
Total		49,696		5,859		13,225		49,459
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	110,500	$1,228	66,000	$930	600	$15	36,652	$769
Black bass	342,500	44,525						
Bluefish	1,976	327						
Bonito	1,245	165						
Butterfish	56,350	3,694						
Carp	92,000	5,980	2,890	$155	10,595	$910	2,230	$110
Catfish	37,800	1,332	85,000	4,680	36,000	1,790	85,050	4,330
Crevallé	44,000	2,180						
Croaker	195,800	9,570					16,200	648
Eels	200	20	7,290	395	3,800	345	1,850	167
Flounders	23,775	1,680					2,400	192
Gizzard shad	44,150	1,523					900	45
Hickory shad	1,400	70						
King whiting	11,870	853						
Mullet	23,775	2,203						
Perch, white	435,100	27,304	6,950	695	8,550	735	12,395	1,007
Perch, yellow	30,000	1,950	780	62	7,150	565	2,700	321
Pigfish	12,250	755						
Pike or pickerel	56,000	2,900			325	65	500	100
Pompano	1,380	120						
Redfish or red drum	4,340	97						
Scup	250	25						
Shad	26,099	5,025	97,400	18,480	79,032	17,176	49,836	7,009
Sheepshead	1,250	125						
Spanish mackerel	1,980	337						
Spot	178,600	15,461						
Squeteagues or "seatrout"	70,200	7,370					2,675	134
Striped bass	6,269	209	6,500	1,300	11,800	2,250	35,200	5,530
Sturgeon	675	135						
Sturgeon caviar	150	370						
Suckers			950	29				
Yellowtail, or "silver perch"	850	51						
Crabs, hard	900,000	21,600						
Clams, hard	2,056	896						
Oysters, market, public							207,235	21,525
Oysters, market, private	87,157	35,772					150,500	19,230
Oysters, seed, private	15,925	750						
Total	2,817,872	196,602	273,760	26,726	157,852	23,851	606,323	61,117

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF VIRGINIA IN 1920, BY COUNTIES—Continued.

Items.	Spotsylvania.		Stafford.		Surry.		Warwick.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing							3	
On vessels transporting			3					
In shore fisheries	27		122		40		232	
Shoresmen	2							
Total	29		125		40		235	
INVESTMENT.								
Vessels fishing, gasoline							1	$1,200
Tonnage							5	
Outfit								150
Vessels transporting, gasoline			1	$1,000				
Tonnage			6					
Outfit				125				
Boats, sail, row, etc	24	$880	19	1,070	27	$675	96	2,850
Boats, power	10	1,550	24	3,850	13	2,650	91	25,500
Apparatus, vessel fisheries:								
Tongs							2	14
Apparatus, shore fisheries:								
Haul seines	2	250	10	4,900	3	600	1	200
Gill nets	11	1,510	19	2,135	945	2,363	415	1,037
Pound nets and weirs	15	605	10	350			39	11,400
Fyke nets	128	845	58	420	35	1,700	32	1,080
Lines, hand and trot				105		5		100
Eel pots	50	75	47	85	21	27	63	126
Tongs, rakes, and hoes							198	1,250
Shore and accessory property		4,100		1,185		15		7,150
Cash capital		100						
Total		9,915		15,225		8,035		52,057
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	58,840	$2,200	82,840	$1,877	45,000	$450	252,400	$2,674
Bluefish							700	140
Butterfish							194,400	5,832
Carp	9,075	755	23,725	1,705	8,500	425	100	3
Catfish	62,760	3,465	56,050	3,965	18,450	967	700	34
Crevallé							135,100	4,053
Croaker					800	24	543,300	21,868
Eels	12,600	840	2,190	160	2,250	170	9,000	876
Flounders					275	17	37,530	1,505
Gizzard shad	6,050	242			14,185	284	500	15
Hickory shad			40,000	800			6,230	311
King whiting							228	23
Mullet			3,000	45				
Perch, white	15,750	1,355	5,575	600	11,795	1,415	1,100	65
Perch, yellow	17,845	1,235	7,050	602	580	58		
Pigfish							5,310	621
Pike or pickerel	9,510	1,790	3,610	778				
Shad	9,550	2,075	37,216	7,163	46,536	8,127	78,720	11,936
Spot					150	12	22,880	544
Squeteagues or "sea trout"					2,300	184	501,240	26,602
Striped bass	1,235	211	650	120	4,150	830	33,500	6,700
Sturgeon							700	140
Sturgeon caviar							57	199
Suckers					550	17		
Crabs, hard			18,335	1,600				
Oysters, market, public							526,750	37,550
Oysters, market, private							35,000	2,500
Oysters, seed, public							840,000	30,000
Turtles					400	1		
Total	203,215	14,168	280,241	19,415	155,921	12,981	3,225,445	154,191

Items.	Westmoreland.		York.		Total.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	89		54		1,995	
On vessels transporting	23		40		563	
In shore fisheries	385		443		11,612	
Shoresmen	29		36		5,208	
Total	526		573		19,378	

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF VIRGINIA IN 1920, BY COUNTIES—Continued.

Items.	Westmoreland.		York.		Total.	
INVESTMENT.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
Vessels fishing, steam					45	$2,232,025
Tonnage					4,718	
Outfit						486,561
Vessels fishing, gasoline	2	$1,650	20	$57,400	81	456,975
Tonnage	14		140		1,150	
Outfit		550		12,040		108,523
Vessels fishing, sail	17	10,675			44	29,350
Tonnage	130				354	
Outfit		4,340				14,572
Vessels transporting, gasoline	2	4,800	15	24,100	222	375,450
Tonnage	45		135		2,125	
Outfit		725		3,505		80,752
Vessels transporting, sail	6	15,900	4	7,000	56	128,900
Tonnage	142		86		1,536	
Outfit		970		350		13,660
Boats, sail, row, etc	201	6,010	159	4,635	5,476	194,136
Boats, power	98	24,220	145	53,200	3,404	994,000
Apparatus, vessel fisheries:						
Purse seines					50	121,800
Haul seines					1	150
Crab scrapes					24	172
Crab dredges			32	1,175	62	2,450
Oyster dredges	44	585			201	4,470
Tongs			8	60	22	276
Apparatus, shore fisheries:						
Haul seines	14	4,600	5	1,000	196	41,505
Gill nets	147	560	33	1,385	15,152	98,108
Pound nets and weirs	43	5,825	65	18,350	1,882	895,762
Fyke nets	26	255	23	460	1,301	24,092
Dip nets	6	2			867	560
Stop nets					4	120
Otter trawls					1	125
Lines, hand and trot		251		1,020		8,847
Slat traps or baskets					40	600
Eel pots					562	1,132
Eel spears					2	10
Crab scrapes					531	3,784
Crab dredges			12	360	56	1,056
Crab traps					13	18
Tongs, rakes, and hoes	201	1,263	323	2,024	5,421	45,000
Oyster dredges	39	555	2	50	217	3,610
Scallop dredges					304	2,244
Shore and accessory property		3,870		13,082		3,561,449
Cash capital		1,400		5,750		777,255
Total		89,006		206,946		10,709,499
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	133,000	$2,525	296,400	$3,705	16,635,100	$258,358
Alewives, salted					30,000	900
Black bass					342,500	44,525
Black drum					59,980	792
Bluefish			600	110	178,475	27,211
Bonito					183,535	13,358
Butterfish			76,100	2,283	3,018,842	136,894
Carp	42,085	4,238			282,695	20,559
Catfish	30,815	1,547			826,485	48,383
Crevallé			8,400	252	760,448	24,378
Croaker	2,825	65	1,552,924	53,301	16,372,134	513,975
Eels					121,800	12,559
Flounders			31,190	1,278	313,584	15,715
Gizzard shad					139,355	4,723
Goldfish					4,050	380
Hickory shad	100	5	11,850	474	163,950	6,047
King whiting			50	5	40,222	3,411
Mackerel			260	23	70,677	8,473
Menhaden			48,000	240	366,379,425	2,158,518
Mullet			6,000	240	458,158	17,417
Ocean sunfish					100	20
Perch, white	16,560	1,717	3,100	181	648,165	46,638
Perch, yellow	24,265	3,468			117,755	10,547
Pigfish			1,050	91	69,300	3,523
Pike or pickerel	5,875	1,475			80,860	8,081
Pompano					6,930	1,430
Redfish or red drum					117,560	3,753
Scup					35,140	2,418
Sea bass					18,975	1,427

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF VIRGINIA IN 1920, BY COUNTIES—Continued.

Items.	Westmoreland.		York.		Total	
PRODUCTS—continued.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Shad	24,078	$4,767	134,100	$17,88	7,293,805	$1,145,106
Sheepshead					2,155	263
Spanish mackerel			155	25	33,839	5,039
Spot			55,800	3,721	967,296	67,270
Squeteagues or "sea trout"	17,400	1,055	584,250	33,482	12,908,502	654,521
Striped bass	45,355	8,058	5,100	1,020	379,568	68,858
Sturgeon			1,029	206	78,388	14,368
Sturgeon caviar					5,172	16,038
Sturgeon roe					101	150
Suckers					2,800	85
Yellowtail or "silver perch"					3,350	126
Crabs, hard	255,000	7,655	3,192,050	102,635	12,465,342	401,295
Crabs, soft	560	150	16,000	1,600	1,171,737	164,269
Squid					42,150	1,475
Clams, hard			29,696	11,140	499,440	229,645
Oysters, market, public	1,016,351	23,454	441,700	29,120	10,757,488	993,548
Oysters, market, private	71,050	3,875	458,871	46,686	11,823,420	1,174,375
Oysters, seed, public			1,202,600	42,950	5,008,150	178,038
Oysters, seed, private					155,925	3,200
Scallops					113,760	26,852
Terrapin					248	360
Turtles					18,680	1,165
Frogs					480	120
Cabomba					900	90
Alewife scales					10,203	1,055
Total	1,685,319	114,054	8,157,275	352,648	471,219,089	8,541,724

FISHERIES BY APPARATUS.

The yield of the vessel fisheries of Virginia in 1920 was 366,805,629 pounds, valued at $2,634,383, consisting chiefly of menhaden taken with purse seines, 360,145,505 pounds, valued at $2,136,404; oysters, taken with dredges and tongs, 4,229,694 pounds, or 604,242 bushels, valued at $384,469; crabs, with dredges and scrapes, 2,408,630 pounds, valued at $110,810, of which 2,368,250 pounds, valued at $105,965, are credited to dredges. In the shore fisheries the most productive form of apparatus is the pound net, the catch amounting to 59,554,037 pounds, valued at $2,448,853. The species taken in the largest quantities with pound nets were alewives, croakers, squeteagues, menhaden, shad, and butterfish. Tongs, rakes, and hoes, used chiefly in the taking of oysters, yielded 20,343,099 pounds, valued at $1,897,186. The catch with lines, consisting principally of hard crabs, amounted to 10,591,468 pounds, valued at $345,842; with gill nets, 3,445,035 pounds, valued at $389,820, the principal species being shad, croaker, alewives, and mullet; with seines, 2,838,227 pounds, valued at $202,039, principally alewives, white perch, black bass, croaker, and squeteagues. Of the total catch of crabs taken with dredges, amounting to 3,068,800 pounds, valued at $136,341, 700,550 pounds, valued at $30,376, were credited to the shore fisheries. Of the total catch of crabs with scrapes, amounting to 855,262 pounds, valued at $105,807, 814,882 pounds, valued at $100,962, are credited to the shore fisheries.

The products of the vessel and shore fisheries are shown separately in the appended tables.

YIELD OF THE VESSEL FISHERIES OF VIRGINIA IN 1920, BY COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Accomac.		Elizabeth City.		Gloucester.		Isle of Wight.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Purse seines: Menhaden	37,218,600	$245,283						
Crab dredges: Crabs, hard			938,775	$41,824				
Oyster dredges:								
Oysters, market, public	288,022	27,748						
Oysters, market, private	168,000	18,000	2,082,535	190,701	21,000	$3,000	4,900	$350
Total	456,022	45,748	2,082,535	190,701	21,000	3,000	4,900	350
Tongs:								
Oysters, market, public					2,100	150		
Oysters, seed, public					14,000	500		
Total					16,100	650		
Scrapes: Crabs, soft	40,380	4,845						
Grand total	37,715,002	295,876	3,021,310	232,525	37,100	3,650	4,900	350

Apparatus and species.	Lancaster.		Mathews.		Middlesex.		Norfolk.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Purse seines: Menhaden	104,989,565	$409,533						
Crab dredges: Crabs, hard			17,600	$880			261,075	$11,711
Oyster dredges:								
Oysters, market, private			45,500	4,875			812,000	69,600
Tongs:								
Oysters, market, public	5,600	720			56,000	$6,400		
Oysters, market, private	66,500	7,100						
Total	72,100	7,820			56,000	6,400		
Grand total	105,061,665	417,353	63,100	5,755	56,000	6,400	1,073,075	81,311

Apparatus and species.	Northampton.		Northumberland.		Prince William.		Richmond.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Purse seines: Menhaden	11,400,000	$22,800	206,537,340	$1,458,788				
Haul seines:								
Carp					1,350	$150		
Catfish					8,000	400		
Perch, white					1,200	100		
Perch, yellow					1,250	100		
Striped bass					10,000	1,950		
Total					21,800	2,700		
Oyster dredges: Oysters, market, public			206,472	21,265				
Tongs: Oysters, market, public							24,500	$2,800
Grand total	11,400,000	22,800	206,743,812	1,480,053	21,800	2,700	24,500	2,800

YIELD OF THE VESSEL FISHERIES OF VIRGINIA IN 1920, BY COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Warwick.		Westmoreland.		York.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Purse seines: Menhaden							360,145,505	$2,136,404
Haul seines:								
Carp							1,350	150
Catfish							8,000	400
Perch, white							1,200	100
Perch, yellow							1,250	100
Striped bass							10,000	1,950
Total							21,800	2,700
Crab dredges: Crabs, hard					1,150,800	$51,550	2,368,250	105,965
Oyster dredges:								
Oysters, market, public			376,565	$27,540			871,059	76,553
Oysters, market, private							3,133,935	286,526
Total			376,565	27,540			4,004,994	363,079
Tongs:								
Oysters, market, public	14,000	$900			29,400	2,370	131,600	13,340
Oysters, market, private							66,500	7,100
Oysters, seed, public					12,600	450	26,600	950
Total	14,000	900			42,000	2,820	224,700	21,390
Scrapes: Crabs, soft							40,380	4,845
Grand total	14,000	900	376,565	27,540	1,192,800	54,370	366,805,629	2,634,383

YIELD OF THE SHORE FISHERIES OF VIRGINIA IN 1920, BY APPARATUS, COUNTIES, AND SPECIES.

BY SEINES.

Species.	Accomac.		Arlington.		Charles City.		Dinwiddie.		Essex.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh					100,000	$1,500	40,000	$1,200	1,500	$60
Carp			1,650	$150			1,000	60		
Catfish			5,800	285			2,000	120	1,800	90
Croaker	24,724	$955								
Flounders	2,820	190								
Goldfish			2,050	180						
Hickory shad									1,500	60
King whiting	800	120								
Mullet	2,813	225	1,570	160						
Perch, white			850	80					3,600	36
Perch, yellow			1,550	120						
Pigfish	9,600	120								
Shad					6,200	1,260	740	138	1,050	135
Spot	4,605	315								
Squeteagues or "sea trout"	14,898	1,100								
Striped bass			140	35					3,000	600
Total	60,260	3,025	13,610	1,010	106,200	2,760	43,740	1,518	12,450	981

Species.	Fairfax.		Isle of Wight.		James City.		King George.		New Kent.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh					20,000	$800			170,000	$7,800
Alewives, salted									10,000	400
Carp	8,550	$810	6,000	$360	3,800	228	300	$25		
Catfish	13,965	865	1,500	90	7,700	460	4,000	225		
Croakers			1,000	30						
Gizzard shad					5,600	168				
Perch, white	750	75			2,200	220	2,500	150		

YIELD OF THE SHORE FISHERIES OF VIRGINIA IN 1920, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY SEINES—Continued.

Species.	Fairfax.		Isle of Wight.		James City.		King George.		New Kent.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Perch, yellow	3,200	$300	.....	.....	.....	.....	700	$60	.....	.....
Pike or pickerel	125	25	.....	.....	.....	.....	250	50	.....	.....
Shad	.....	.....	.....	.....	8,125	$1,150	.....	.....	28,570	$3,836
Striped bass	3,625	725	1,500	$300	5,500	1,100	9,800	2,450	200	40
Suckers	.....	.....	.....	.....	1,200	36	.....	.....	.....	.....
Total	30,215	2,800	10,000	780	54,125	4,162	17,550	2,960	208,770	12,076

Species.	Norfolk.		Northampton.		Princess Anne.		Prince William.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	.....	.....	.....	.....	100,000	$1,000	.....	.....
Black bass	.....	.....	.....	.....	340,000	44,200	.....	.....
Bluefish	1,180	$236	775	$78	.....	.....	.....	.....
Butterfish	5,350	321	.....	.....	.....	.....	.....	.....
Carp	.....	.....	.....	.....	90,000	5,850	7,800	$650
Catfish	.....	.....	.....	.....	36,000	1,260	6,000	300
Croaker	116,000	3,705	26,355	1,240	.....	.....	.....	.....
Flounders	19,000	830	3,209	200	.....	.....	.....	.....
Gizzard shad	.....	.....	.....	.....	36,000	1,260	.....	.....
King whiting	2,200	118	1,305	195	500	50	.....	.....
Mullet	24,300	2,195	.....	.....	3,500	280	.....	.....
Perch, white	20,750	2,040	.....	.....	422,000	26,340	200	20
Perch, yellow	.....	.....	.....	.....	18,000	1,170	250	20
Pigfish	5,010	238	1,470	125	.....	.....	.....	.....
Pike or pickerel	.....	.....	.....	.....	45,000	2,430	125	25
Spot	164,100	16,370	5,870	515	5,000	700	.....	.....
Squeteagues or "sea trout"	125,600	8,590	87,885	4,910	1,500	150	.....	.....
Striped bass	.....	.....	600	90	1,400	235	1,800	300
Yellowtail or "silver perch"	2,000	60	.....	.....	.....	.....	.....	.....
Total	485,490	34,703	127,469	7,353	1,098,900	84,925	16,175	1,315

Species.	Richmond.		Spotsylvania.		Stafford.		Surry.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	.....	.....	.....	.....	42,440	$767	.....	.....
Carp	400	$20	9,000	$750	20,600	1,555	2,200	$110
Catfish	150	9	2,200	110	44,600	3,395	9,400	470
Eels	.....	.....	75	5	.....	.....	.....	.....
Gizzard shad	.....	.....	.....	.....	.....	.....	8,000	160
Hickory shad	.....	.....	.....	.....	40,000	800	.....	.....
Mullet	.....	.....	.....	.....	3,000	45	.....	.....
Perch, white	.....	.....	1,175	100	3,425	330	7,425	891
Perch, yellow	.....	.....	1,550	110	1,150	90	250	25
Pike or pickerel	.....	.....	2,750	550	570	120	.....	.....
Shad	.....	.....	.....	.....	4,108	613	1,050	180
Squeteagues or "sea trout"	.....	.....	.....	.....	.....	.....	500	40
Striped bass	.....	.....	100	20	650	120	2,750	550
Suckers	.....	.....	.....	.....	.....	.....	400	12
Total	550	29	16,850	1,645	160,543	7,835	31,975	2,438

Species.	Warwick.		Westmoreland.		York.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	.....	.....	.....	.....	.....	.....	473,940	$13,127
Alewives, salted	.....	.....	.....	.....	.....	.....	10,000	400
Black bass	.....	.....	.....	.....	.....	.....	340,000	44,200
Bluefish	.....	.....	.....	.....	500	$90	2,455	404
Butterfish	.....	.....	.....	.....	.....	.....	5,350	321
Carp	.....	.....	41,650	$4,200	.....	.....	192,950	14,768
Catfish	.....	.....	14,100	687	.....	.....	149,215	8,366
Croaker	3,000	$240	.....	.....	149,200	7,140	320,279	13,310
Eels	.....	.....	.....	.....	.....	.....	75	5
Flounders	.....	.....	.....	.....	350	14	25,379	1,234
Gizzard shad	.....	.....	.....	.....	.....	.....	49,600	1,588
Goldfish	.....	.....	.....	.....	.....	.....	2,050	180
Hickory shad	.....	.....	.....	.....	.....	.....	41,500	860
King whiting	.....	.....	.....	.....	260	23	5,065	506

YIELD OF THE SHORE FISHERIES OF VIRGINIA IN 1920, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY SEINES—Continued.

Species.	Warwick.		Westmoreland.		York.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Mullet							35,183	$2,905
Perch, white			6,260	$772	350	$18	471,485	31,072
Perch, yellow			18,540	3,070			45,190	4,965
Pigfish					350	32	16,430	515
Pike or pickerel			5,375	1,375			54,195	4,575
Shad							49,843	7,312
Spanish mackerel					55	10	55	10
Spot					19,000	1,330	198,575	19,230
Squeteagues or "sea trout"	2,500	$200			55,000	5,500	287,883	20,490
Striped bass	1,200	240	21,465	3,943	4,200	840	57,930	11,588
Suckers							1,600	48
Yellowtail or "silver perch"							2,000	60
Total	6,700	680	107,390	14,047	229,265	14,997	2,838,227	202,039

BY GILL NETS.

Species.	Accomac.		Arlington.		Caroline.		Charles City.		Chesterfield.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives					4,500	$90				
Bluefish	820	$205								
Carp					180	9				
Croaker	194,000	6,520								
Hickory shad					4,500	180				
King whiting	4,643	225								
Mackerel	70,417	8,450								
Mullet	220,350	4,330								
Perch, white					1,200	120				
Shad			80,282	$15,288	6,737	867	300,300	$55,510	37,000	$6,900
Spot	22,000	550								
Squeteagues or "sea trout"	10,937	625								
Striped bass					500	100				
Sturgeon	330	100								
Sturgeon caviar	38	125								
Total	523,535	21,230	80,282	15,288	17,617	1,366	300,300	55,510	37,000	6,900

Species.	Dinwiddie.		Elizabeth City.		Essex.		Fairfax.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives	60,000	$1,800			900	$36		
Mullet			40,000	$2,000				
Perch, white					2,200	220		
Shad	14,800	2,760			8,575	1,103	93,705	$19,150
Striped bass					6,650	1,330		
Total	74,800	4,560	40,000	2,000	18,325	2,689	93,705	19,150

Species.	Gloucester.		Henrico.		Isle of Wight.		James City.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives			300,000	$6,000				
Catfish	1,775	$89						
Croaker	15,600	468						
Hickory shad			30,000	1,200				
Mullet	2,750	138			1,800	$180	3,000	$300
Perch, white	390	20						
Shad	5,950	969			211,702	39,476	125,007	21,058
Spot	16,200	810						
Squeteagues or "sea trout"	7,650	384						
Striped bass	3,500	700						
Sturgeon							2,240	580
Sturgeon caviar							237	691
Total	53,815	3,578	330,000	7,200	213,502	39,656	130,484	22,629

YIELD OF THE SHORE FISHERIES OF VIRGINIA IN 1920, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY GILL NETS—Continued.

Species.	King George.		King and Queen.		King William.		Mathews.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives	73,880	$2,552						
Bluefish							1,800	$324
Carp	4,600	184						
Catfish	1,900	95						
Croaker							55,600	2,139
Hickory shad	4,560	137						
Mullet							2,000	140
Perch, white	8,750	350						
Shad	51,860	9,048	142,051	$32,941	45,521	$7,466		
Spot							15,500	1,206
Squeteagues or "sea trout"							19,300	1,897
Striped bass	8,400	1,680					5,500	1,100
Total	153,950	14,546	142,051	32,941	45,521	7,466	99,700	6,806

Species.	Nansemond.		New Kent.		Norfolk.		Northampton.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Bluefish							12,500	$500
Croaker					40,000	$1,600	2,000	200
Flounders					1,050	84		
Mullet					117,000	3,800	8,870	1,400
Perch, white					4,000	240		
Pigfish					300	9		
Shad	68,250	$12,600	183,171	$28,486	1,800	345		
Spot					40,000	4,160	3,530	300
Sturgeon							2,250	758
Sturgeon caviar							230	552
Total	68,250	12,600	183,171	28,486	204,150	10,238	29,380	3,710

Species.	Northumberland.		Prince George.		Prince William.		Princess Anne.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives					600	$15		
Carp					500	40		
Croaker	5,000	$50					3,200	$192
Mullet							10,000	1,200
Shad	1,280	270	97,400	$18,480	79,032	17,176		
Squeteagues or "sea trout"	1,200	25					1,100	110
Total	7,480	345	97,400	18,480	80,132	17,231	14,300	1,502

Species.	Richmond.		Spotsylvania.		Stafford.		Surry.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives			58,840	$2,200	40,000	$1,100		
Pike or pickerel			350	70				
Shad	35,548	$4,928	9,550	2,075	33,108	6,550	35,365	$6,285
Total	35,548	4,928	68,740	4,345	73,108	7,650	35,365	6,285

Species.	Warwick.		Westmoreland.		York.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives							538,720	$13,793
Bluefish							15,120	1,029
Carp							5,280	233
Catfish							3,675	184
Croaker					130,724	$3,921	446,124	15,090
Flounders							1,050	84
Hickory shad							39,060	1,517
King whiting							4,643	325
Mackerel							70,417	8,450
Mullet					6,000	240	411,770	13,728
Perch, white			400	$40	2,100	105	19,040	1,595
Pigfish					650	52	950	61
Pike or pickerel							350	70

YIELD OF THE SHORE FISHERIES OF VIRGINIA IN 1920, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY GILL NETS—Continued.

Species.	Warwick.		Westmoreland.		York.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Shad	19,500	$3,400	3,200	$700			1,690,694	$313,831
Spot					22,200	$1,555	119,430	8,581
Squeteagues or "sea trout"					8,250	412	48,437	3,453
Striped bass			400	80			24,950	4,360
Sturgeon							4,820	1,438
Sturgeon caviar							505	1,368
Total	19,500	3,400	4,000	820	169,924	6,285	3,445,035	389,820

BY POUND NETS.

Species.	Accomac.		Caroline.		Elizabeth City.		Essex.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	839,724	$12,524	6,250	$250	1,120,000	$8,750	2,950	$68
Black drum	53,980	677						
Bluefish	5,750	1,950			6,870	1,374		
Bonito	134,750	8,413			200	40		
Butterfish	765,270	35,125			694,400	20,832		
Catfish			100	5			2,400	80
Crevallé					269,800	8,094		
Croaker	2,575,325	96,464			4,420,000	109,000		
Eels	4,800	1,200			200	16		
Flounders	45,390	1,864			28,900	1,156		
Gizzard shad							1,500	60
Hickory shad	4,120	211			30,700	1,360	400	12
King whiting	7,500	635			2,300	230		
Menhaden	4,062,350	13,833			9,600	48		
Perch, white			620	49	7,900	378	1,500	150
Pigfish	16,000	480			2,380	288		
Pompano	4,200	1,000			200	70		
Redfish or red drum	79,840	3,135			500	5		
Scup	8,250	425			4,350	335		
Sea bass					1,100	92		
Shad	414,927	76,822	945	122	408,600	54,210	700	90
Sheepshead	30	6			50	6		
Spanish mackerel	18,630	2,720			5,900	885		
Spot	108,486	2,985			131,600	6,580		
Squeteagues or "sea trout"	4,198,672	207,710			2,058,000	102,900		
Striped bass	16,644	1,075			9,700	1,940	700	140
Sturgeon	10,249	3,219			5,250	1,050		
Sturgeon caviar	1,337	4,560			544	1,800		
Squid	42,150	1,475						
Turtles	780	39			7,500	125		
Total	13,419,154	478,547	7,915	426	9,226,544	321,564	10,150	600

Species.	Gloucester.		Isle of Wight.		James City.		King George.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	1,068,800	$13,360	9,500	$238	45,000	$1,800	81,750	$2,270
Butterfish	48,660	1,460	300	12				
Carp			250	9			570	29
Catfish			400	16			16,300	977
Crevallé	171,200	5,136	200	8				
Croaker	1,961,300	58,839	2,800	84				
Eels			250	25			100	8
Flounders	9,261	369						
Perch, white	456	28	300	30			8,590	845
Perch, yellow							2,200	175
Pigfish	30	5						
Pike or pickerel							25	5
Shad	235,344	30,599	2,220	396			10,035	1,838
Spanish mackerel	10	1						
Spot	10,860	544						
Squeteagues or "sea trout"	1,313,490	65,675	9,500	760			400	20
Striped bass	4,400	880	4,100	820			13,350	2,905
Sturgeon	1,650	330						
Sturgeon caviar	295	738						
Total	4,825,756	177,964	29,820	2,398	45,000	1,800	133,320	9,072

YIELD OF THE SHORE FISHERIES OF VIRGINIA IN 1920, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY POUND NETS—Continued.

Species.	Lancaster.		Mathews.		Middlesex.		New Kent.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	2,060,233	$46,578	3,057,900	$39,034	72,500	$1,900	90,000	$3,600
Alewives, salted	20,000	500						
Bluefish	2,190	438	1,756	351				
Butterfish	20,200	1,175	361,995	10,860				
Crevallé			74,703	2,239				
Croaker	141,750	5,712	1,748,355	43,724	24,500	1,225		
Eels	3,000	600						
Flounders	6,100	445	4,780	190	450	38		
Hickory shad	600	24	52,570	2,103				
King whiting			260	27				
Menhaden	427,500	1,965						
Mullet			680	36				
Perch, white	1,650	165						
Pigfish			350	53				
Shad	526,054	82,006	2,295,730	305,916	22,554	2,900		
Spanish mackerel			2,479	373				
Spot	6,700	356	55,847	2,794	450	23		
Squeteagues or "sea trout"	59,000	3,083	1,355,930	66,937	34,500	3,150		
Striped bass	24,675	3,998	3,535	707	400	80		
Sturgeon	1,040	312	1,815	403				
Sturgeon caviar			314	948				
Total	3,300,692	147,357	9,018,999	476,695	155,354	9,316	90,000	3,600

Species.	Norfolk.		Northampton.		Northumberland.		Princess Anne.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	69,000	$1,380	21,000	$210	5,726,586	$77,184	8,700	$174
Black drum			500	5				
Bluefish	900	90	88,263	13,225	970	101	1,976	327
Bonito	425	65	46,915	4,675			1,245	165
Butterfish	80,600	4,776	698,047	49,600	16,675	900	56,350	3,694
Carp					4,000	160		
Catfish					1,100	40		
Crevallé	37,900	1,650	18,250	730			44,000	2,180
Croaker	52,000	1,920	1,603,695	74,522	680,500	7,407	72,600	2,178
Eels	50	1	670	200	7,495	1,118	200	20
Flounders	21,200	2,032	23,070	490	10,724	448	17,775	1,320
Gizzard shad							150	3
Hickory shad	1,600	80			20,390	883	1,400	70
King whiting	500	30	1,666	250			7,370	483
Menhaden			625,500	1,094	1,060,970	4,934		
Mullet							10,275	723
Ocean sunfish			100	20				
Perch, white					2,455	250	3,100	314
Pigfish	2,700	155	6,350	173			8,250	515
Pompano			1,150	240			1,380	120
Redfish or red drum	2,400	48	22,800	238			4,340	97
Scup			17,700	1,416			250	25
Sea bass			3,500	105				
Shad	61,558	6,402	11,363	2,258	1,280,208	217,800	26,099	5,025
Sheepshead			825	126			1,250	125
Spanish mackerel	250	33	4,435	665			1,980	337
Spot	16,700	768	34,238	2,280	18,115	1,075	83,600	5,761
Squeteagues or "sea trout"	130,000	6,090	1,725,235	87,137	435,250	11,122	55,600	4,910
Striped bass	420	84	2,625	1,050	49,330	8,241	1,669	334
Sturgeon	5,260	1,043	45,400	5,990	500	102	675	135
Sturgeon caviar	850	2,475	1,120	3,580			150	370
Sturgeon roe					101	150		
Yellowtail or "silver perch"	500	15					850	51
Alewife scales					10,203	1,055		
Total	484,813	29,137	5,004,417	250,279	9,325,572	332,970	411,234	29,456

Species.	Richmond.		Spotsylvania.		Stafford.		Warwick.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	36,652	$769					252,400	$2,674
Bluefish							700	140
Butterfish							194,400	5,832
Carp	1,730	87	75	$5	625	$50		
Catfish	79,250	4,037	22,560	1,455	2,000	100		

YIELD OF THE SHORE FISHERIES OF VIRGINIA IN 1920, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY POUND NETS—Continued.

Species.	Richmond.		Spotsylvania.		Stafford.		Warwick.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Crevallé							135,100	$4,053
Croaker	16,200	$648					466,100	16,692
Eels	1,400	124	150	$10	300	$20	200	20
Flounders	2,400	192					35,730	1,429
Gizzard shad	900	45	6,050	242				
Hickory shad							6,230	311
King whiting							228	23
Perch, white	12,270	994	10,175	870	900	150		
Perch, yellow	2,575	306	4,350	300	750	100		
Pigfish							210	21
Pike or pickerel	200	40	1,635	275	1,400	280		
Shad	14,288	2,081					59,220	8,536
Spot							14,880	744
Squeteagues or "sea trout"	2,675	134					449,000	22,460
Striped bass	35,200	5,530	935	161			30,500	6,100
Sturgeon							700	140
Sturgeon caviar							57	199
Total	205,740	14,987	45,930	3,318	5,975	700	1,645,655	69,374

Species.	Westmoreland.		York.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives, fresh	133,000	$2,525	296,400	$3,705	14,998,345	$218,993
Alewives, salted					20,000	500
Black drum					54,480	682
Bluefish			100	20	109,475	18,016
Bonito					183,535	13,358
Butterfish			76,100	2,283	3,012,997	136,549
Carp	435	38			7,685	378
Catfish	12,915	660			137,025	7,370
Crevallé			8,400	252	759,553	24,342
Croaker	2,825	65	861,000	25,830	14,628,950	444,310
Eels					18,815	3,362
Flounders			29,650	1,186	235,430	11,159
Gizzard shad					8,600	350
Hickory shad	100	5	11,850	474	129,960	5,533
King whiting			50	5	19,874	1,683
Menhaden			48,000	240	6,233,920	22,114
Mullet					10,955	759
Ocean sunfish					100	20
Perch, white	9,600	875	450	22	59,966	5,120
Perch, yellow	3,725	273			13,600	1,154
Pigfish			50	7	36,320	1,697
Pike or pickerel	250	50			3,510	650
Pompano					6,930	1,430
Redfish or red drum					109,880	3,523
Scup					30,550	2,201
Sea bass					4,600	197
Shad	20,878	4,067	134,100	17,880	5,524,823	818,948
Sheepshead					2,155	263
Spanish mackerel			100	15	33,784	5,029
Spot			9,000	450	490,476	24,360
Squeteagues or "sea trout"	17,400	1,055	461,000	23,050	12,305,652	606,193
Striped bass	23,490	4,035	100	20	221,773	38,100
Sturgeon			1,029	206	73,568	12,930
Sturgeon caviar					4,667	14,670
Sturgeon roe					101	150
Yellowtail or "silver perch"					1,350	66
Squid					42,150	1,475
Turtles					8,280	164
Alewife scales					10,203	1,055
Total	224,618	13,648	1,937,379	75,645	59,554,037	2,448,853

YIELD OF THE SHORE FISHERIES OF VIRGINIA IN 1920, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY FYKE NETS.

Species.	Accomac.		Arlington.		Caroline.		Charles City.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives					50	$2	9,000	$180
Carp			145	$10	100	5	25,700	2,020
Catfish			10,500	510	400	20	22,200	1,688
Croaker	8,571	$300						
Flounders	2,000	100						
Goldfish			2,000	200				
Mullet			250	25				
Perch, white			475	43	250	25	5,020	498
Perch, yellow			600	55			500	50
Shad	1,740	350						
Striped bass	750	150					300	60
Total	13,061	900	13,970	843	800	52	62,720	4,496

Species.	Chesterfield.		Dinwiddie.		Fairfax.		Gloucester.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives	6,000	$120						
Carp	1,000	60			3,350	$335		
Catfish	1,200	72	3,000	$180	112,120	6,460		
Crevallé							400	$12
Croaker							4,400	132
Eels					12,390	815		
Flounders							2,200	88
Perch, white	100	8			8,200	840	535	27
Perch, yellow					12,860	1,085		
Pike or pickerel					150	30		
Spot							2,235	96
Squeteagues or "sea trout"							3,850	191
Striped bass	200	40					9,050	1,576
Total	8,500	300	3,000	180	149,070	9,565	22,670	2,122

Species.	Henrico.		Isle of Wight.		James City.		King and Queen.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives			65,500	$1,632	15,000	$600		
Carp			4,000	120	18,000	1,226		
Catfish	3,600	$216	8,800	264	53,600	4,256	6,300	$378
Croaker			132,760	3,982	2,400	195	2,400	96
Eels			2,300	220	1,150	99		
Flounders			5,400	324	6,190	592	120	10
Gizzard shad			13,400	268	500	15		
Perch, white			12,129	1,212	5,700	570	120	12
Perch, yellow					200	16		
Shad			8,302	1,453				
Spot			600	48				
Squeteagues or "sea trout"			26,750	2,410	3,900	390	1,200	120
Striped bass			9,280	1,856	16,450	3,290	500	100
Suckers					100	3		
Total	3,600	216	289,221	13,789	123,190	11,252	10,640	716

Species.	King George.		King William.		Lancaster.		Nansemond.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives			2,000	$50	120	$2	38,225	$1,015
Butterfish							495	24
Carp	285	$20					4,015	138
Catfish	14,900	765	31,500	1,890			900	45
Crevallé							495	24
Croaker			11,025	441	10,000	100	85,500	2,565
Eels					5,400	1,080	775	44
Flounders			750	60			5,300	318
Perch, white	3,600	353	350	35	2,550	255	6,000	600
Perch, yellow	5,575	425						
Pike or pickerel	3,750	725						
Scup							215	42
Shad					75	13	8,947	1,675
Squeteagues or "sea trout"			7,000	700	150	30	5,750	288
Striped bass	85	15	3,500	700	8,350	2,653	9,350	1,870
Total	28,195	2,303	56,125	3,876	26,645	4,133	165,967	8,648

YIELD OF THE SHORE FISHERIES OF VIRGINIA IN 1920, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY FYKE NETS—Continued.

Species.	Northumberland.		Princess Anne.		Prince George.		Prince William.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives			1 800	$54	66,000	$930		
Black bass			2 500	325				
Carp			2,000	130	2,890	155	945	$70
Catfish			1,800	72	85,000	4,680	22,000	1,090
Croaker	2,500	$25						
Eels					1,790	95	675	45
Gizzard shad			8,000	260				
Perch, white			10,000	650	6,950	695	7,150	615
Perch, yellow			12,000	780	780	62	5,650	445
Pike or pickerel			11,000	470			200	40
Striped bass					6,500	1,300		
Suckers					950	29		
Total	2,500	25	49,100	2,741	170,860	7,946	36,620	2,305

Species.	Richmond.		Spotsylvania.		Stafford.		Surry.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives					400	$10	45,000	$450
Carp	100	$3			2,500	100	6,300	315
Catfish	5,650	284	38,000	$1,900	9,450	470	4,550	227
Croaker							800	24
Eels	450	43	375	25	140	10	250	10
Flounders							275	17
Gizzard shad							6,185	124
Perch, white	125	13	4,400	385	1,250	120	4,370	524
Perch, yellow	125	15	11,945	825	5,150	412	330	33
Pike or pickerel	300	60	4,775	895	1,640	378		
Shad							10,121	1,662
Spot							150	12
Squeteagues or "sea trout"							1,800	144
Striped bass			200	30			900	180
Suckers							150	5
Turtles							400	1
Total	6,750	418	59,695	4,060	20,530	1,500	81,581	3,728

Species.	Warwick.		Westmoreland.		York.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Alewives							249,095	$5,045
Black bass							2,500	325
Butterfish							495	24
Carp	100	$3					71,430	4,710
Catfish	700	34	3,800	$200			439,970	25,701
Crevallé							895	36
Croaker	24,200	936			12,000	$410	296,556	9,206
Eels							25,695	2,486
Flounders	1,800	76			1,190	78	25,225	1,663
Gizzard shad	500	15					28,585	682
Goldfish							2,000	200
Mullet							250	25
Perch, white	1,100	65	300	30	200	36	80,874	7,611
Perch, yellow			2,000	125			57,715	4,328
Pike or pickerel			250	50			22,065	2,648
Scup							215	42
Shad							29,185	5,153
Spot					600	36	3,585	192
Squeteagues or "sea trout"	1,740	102			10,000	520	62,140	4,895
Striped bass	1,800	360			800	160	68,015	14,340
Suckers							1,200	37
Turtles							400	1
Total	31,940	1,591	6,350	405	24,790	1,240	1,468,090	89,350

YIELD OF THE SHORE FISHERIES OF VIRGINIA IN 1920, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY LINES.

Species.	Accomac.		Dinwiddie.		Elizabeth City.		Gloucester.		Isle of Wight.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Black drum	5,500	$110								
Bluefish	51,025	7,682								
Catfish			20,600	$1,442						
Croaker	3,375	150			45,600	$1,824			4,500	$135
Flounders	4,250	165								
King whiting	2,500	200			2,400	240				
Pigfish					2,500	250				
Redfish or red drum	7,670	230								
Scup	4,375	175								
Sea bass	10,375	830								
Spot	1,430	93			10,800	864				
Squeteagues or "sea trout"	16,590	760			18,000	1,280			2,000	160
Crabs, hard	499,636	22,173			975,000	19,200	962,666	$25,980	6,250	200
Total	606,726	32,568	20,600	1,442	1,054,300	23,658	962,666	25,980	12,750	495

Species.	King and Queen.		King George.		King William.		Lancaster.		Mathews.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Catfish					3,500	$210				
Striped bass					3,000	600				
Crabs, hard	56,250	$1,350	64,375	$2,060	18,750	450	211,900	$6,357	908,600	$27,258
Total	56,250	1,350	64,375	2,060	25,250	1,260	211,900	6,357	908,600	27,258

Species.	Middlesex.		New Kent.		Norfolk.		Northampton.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Bluefish					400	$80		
Catfish			50,000	$4,000				
Croaker					48,000	2,400		
Flounders					10,000	800		
King Whiting					2,000	160		
Perch, white					3,600	180		
Pigfish					4,000	160		
Sea bass					4,000	400		
Spot					40,000	4,800		
Squeteagues or "sea trout"					48,000	4,800		
Crabs, hard	622,700	$18,681			945,000	30,240	664,151	$22,120
Turtles			10,000	1,000				
Total	622,700	18,681	60,000	5,000	1,105,000	44,020	664,151	22,120

Species.	Northumberland.		Princess Anne.		Stafford.		Surry.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Catfish							4,500	$270
Croaker			120,000	$7,200				
Flounders			6,000	360				
King whiting			4,000	320				
Pigfish			4,000	240				
Spot			90,000	9,000				
Squeteagues or "sea trout"			12,000	1,200				
Striped bass			3,200	640			500	100
Crabs, hard	545,065	$20,068	900,000	21,600	18,335	$1,600		
Total	545,065	20,068	1,139,200	40,560	18,335	1,600	5,000	370

YIELD OF THE SHORE FISHERIES OF VIRGINIA IN 1920, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY LINES—Continued.

Species.	Warwick.		Westmoreland.		York.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Black drum							5,500	$110
Bluefish							51,425	7,762
Catfish							78,600	5,922
Croaker	50,000	$1,000			400,000	$16,000	671,475	31,709
Flounders							20,250	1,325
King whiting							10,900	920
Perch, white							3,600	180
Pigfish	5,100	600					15,600	1,250
Redfish or red drum							7,670	230
Scup							4,375	175
Sea bass							14,375	1,230
Spot	8,000	800			5,000	350	155,230	15,907
Squeteagues or "sea trout"	48,000	3,840			50,000	4,000	194,590	16,040
Striped bass							6,700	1,340
Crabs, hard			255,000	$7,655	1,687,500	33,750	9,341,178	260,742
Turtles							10,000	1,000
Total	111,100	9,240	255,000	7,655	2,142,500	54,100	10,591,468	345,842

BY CRAB SCRAPES, CRAB DREDGES, OYSTER DREDGES, TONGS, RAKES AND HOES, AND HAND.

Apparatus and species.	Accomac.		Arlington.		Elizabeth City.		Essex.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Crab scrapes:								
Crabs, hard	36,560	$2,742						
Crabs, soft	778,322	98,220						
Total	814,882	100,962						
Crab dredges: Crabs, hard	221,675	6,306			125,125	$6,735		
Oyster dredges:								
Oysters, market, public	149,345	13,820						
Oysters, market, private	139,370	12,587			121,569	8,684		
Scallops	101,760	21,352						
Total	390,475	47,759			121,569	8,684		
Tongs, rakes, and hoes:								
Oysters, market, public	502,446	57,690			157,500	11,025	180,950	$18,095
Oysters, market, private	942,613	99,382			69,650	4,975	190,400	19,040
Oysters, seed, public	168,000	7,200			548,100	19,575		
Oysters, seed, private	122,500	2,138						
Clams, hard	297,000	152,710			13,200	4,950		
Total	2,032,559	319,120			788,450	40,525	371,350	37,135
Hand:								
Oysters, market, public	186,830	12,726						
Oysters, market, private	749,014	73,151						
Oysters, seed, public	45,500	1,625						
Oysters, seed, private	17,500	312						
Clams, hard	28,176	17,187			400	150		
Crabs, soft	2,100	575						
Terrapin	248	360						
Cabomba			900	$90				
Total	1,029,368	105,936	900	90	400	150		

Apparatus and species.	Gloucester.		Isle of Wight.		James City.		King and Queen.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Oyster dredges: Oysters, market, private	59,500	$5,100						
Tongs, rakes, and hoes:								
Oysters, market, public	238,490	25,484	525,000	$33,750			18,900	$1,790
Oysters, market, private	877,079	95,873	132,685	9,477	378,000	$40,500	420,000	45,500
Oysters, seed, public			1,183,700	42,275				
Clams, hard	4,928	1,944						
Total	1,120,497	123,301	1,841,385	85,502	378,000	40,500	438,900	47,290

YIELD, OF THE SHORE FISHERIES OF VIRGINIA IN 1920, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY CRAB SCRAPES, CRAB DREDGES, OYSTER DREDGES, TONGS, RAKES AND HOES, AND HAND—Continued.

Apparatus and species.	King George.		King William.		Lancaster.		Mathews.	
Oyster dredges:	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Oysters, market, public							700	$75
Oysters, market, private			91,000	$10,400			30,100	3,225
Clams, hard							2,000	625
Total			91,000	10,400			32,800	3,925
Tongs, rakes, and hoes:								
Oysters, market, public	51,310	$3,600			1,089,235	$130,892	660,562	70,245
Oysters, market, private			448,000	48,307	262,738	31,778	377,832	38,595
Clams, hard							44,640	16,450
Total	51,310	3,600	448,000	48,307	1,351,973	162,670	1,083,034	125,290

Apparatus and species.	Middlesex.		Nansemond.		New Kent.		Norfolk.	
Tongs, rakes, and hoes:	*Pounds*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Oysters, market, public	2,062,340	$229,921	873,600	$56,360			735,000	$57,750
Oysters, market, private	7,350	735	398,685	28,450	9,100	$1,000	245,581	21,311
Oysters, seed, public			722,750	25,813				
Clams, hard			200	75			[1] 4,872	2,085
Total	2,069,690	230,656	1,995,235	110,698	9,100	1,000	985,453	86,146
Hand: Frogs					480	120		

Apparatus and species.	Northampton.		Northumberland.		Princess Anne.		Richmond.	
Oyster dredges:	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Oysters, market, public			127,960	$12,490				
Oysters, market, private			49,700	5,925				
Scallops	12,000	$5,500						
Total	12,000	5,500	177,660	18,415				
Tongs, rakes, and hoes:								
Oysters, market, public	93,450	9,198	232,540	22,095			182,735	$18,725
Oysters, market, private	256,781	42,828	362,810	40,615	87,157	$35,772	150,500	19,230
Oysters, seed, private					15,925	750		
Clams, hard	68,712	20,176			[2] 2,056	896		
Total	418,943	72,202	595,350	62,710	105,138	37,418	333,235	37,955
Hand:								
Oysters, market, public	121,100	8,610						
Oysters, market, private	1,200,850	80,248						
Oysters, seed, public	283,500	8,100						
Clams, hard	3,760	1,332						
Crabs, soft	19,862	3,125						
Total	1,629,072	101,415						

Apparatus and species.	Warwick.		Westmoreland.		York.		Total.	
Crab scrapes:	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Crabs, hard							36,560	$2,742
Crabs, soft							778,322	98,220
Total							814,882	100,962
Crab dredges: Crabs, hard					353,750	$17,335	700,550	30,376
Oyster dredges:								
Oysters, market, public			186,956	$13,554			464,961	39,939
Oysters, market, private			28,000	1,400	49,000	4,900	568,239	52,221

[1] Includes 1,800 pounds (225 bushels) from private beds, valued at $1,125.
[2] Includes 1,056 pounds (132 bushels) from private beds, valued at $396.

YIELD OF THE SHORE FISHERIES OF VIRGINIA IN 1920, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY CRAB SCRAPES, CRAB DREDGES, OYSTER DREDGES, TONGS, RAKES AND HOES, AND HAND—Continued.

Apparatus and species.	Warwick.		Westmoreland.		York.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Oyster dredges—Contd.								
Clams, hard							2,000	$625
Scallops							113,760	26,852
Total			214,956	$14,954	49,000	$4,900	1,148,960	119,636
Tongs, rakes, and hoes:								
Oysters, market, public	512,750	$35,650	452,830	32,360	412,300	26,750	8,987,538	842,180
Oysters, market, private	35,000	2,500	43,050	2,475	409,871	41,786	6,099,282	674,329
Oysters, seed, public	840,000	30,000			1,190,000	42,500	4,652,550	167,363
Oysters, seed, private							138,425	2,888
Clams, hard					29,696	11,140	465,304	210,426
Total	1,387,750	68,150	495,880	34,835	2,041,867	122,176	20,343,099	1,897,186
Hand:								
Oysters, market, public							307,930	21,336
Oysters, market, private							1,949,864	153,399
Oysters, seed, public							329,000	9,725
Oysters, seed, private							17,500	312
Clams, hard							32,336	18,669
Crabs, soft					16,000	1,600	37,962	5,300
Terrapin							248	360
Frogs							480	120
Cabomba							900	90
Total					16,000	1,600	2,676,220	209,311

BY OTTER TRAWLS, STOP NETS, SLAT TRAPS, AND DIP NETS.

Apparatus and species.	Accomac.		Dinwiddie.		Henrico.		Lancaster.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Otter trawls:								
Croaker	8,750	$350						
Flounders	6,250	250						
Total	15,000	600						
Stop nets:								
Carp			2,000	$120				
Catfish			2,000	120				
Total			4,000	240				
Slat traps:								
Alewives					375,000	$7,400		
Carp					2,000	200		
Catfish					8,000	320		
Hickory shad					6,000	240		
Perch, white					12,000	960		
Total					403,000	9,120		
Dip nets:								
Crabs, hard	18,604	1,395						
Crabs, soft	112,335	15,232					45,760	$8,081
Total	130,939	16,627					45,760	8,081
Crab traps: Crabs, soft	11,670	1,816						

YIELD OF THE SHORE FISHERIES OF VIRGINIA IN 1920, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY OTTER TRAWLS, STOP NETS, SLAT TRAPS, AND DIP NETS—Continued.

Apparatus and species.	Northumberland.		Westmoreland.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Otter trawls:						
Croaker					8,750	$350
Flounders					6,250	250
Total					15,000	600
Stop nets:						
Carp					2,000	120
Catfish					2,000	120
Total					4,000	240
Slat traps:						
Alewives					375,000	7,400
Carp					2,000	200
Catfish					8,000	320
Hickory shad					6,000	240
Perch, white					12,000	960
Total					403,000	9,120
Dip nets:						
Crabs, hard					18,604	1,395
Crabs, soft	144,748	$30,625	560	$150	303,403	54,088
Total	144,748	30,625	560	150	322,007	55,483
Crab traps: Crabs, soft					11,670	1,816

BY POTS AND SPEARS.

Counties.	Eels.		Counties.	Eels.	
	Pounds.	*Value.*		*Pounds.*	*Value.*
Accomac	750	$150	Prince George	5,500	$300
Charles City	2,000	120	Prince William	3,125	300
Elizabeth City	2,000	160	Spotsylvania	12,000	800
Isle of Wight	9,000	800	Stafford	1,750	130
James City	12,500	1,000	Surry	2,000	160
King William	8,000	640	Warwick	8,800	856
Northampton	415	50			
Northumberland	9,375	1,240	Total	77,215	6,706

INDUSTRIES.

Wholesale fishery trade.—In 1920 there were 206 establishments engaged in the wholesale fishery trade of Virginia, valued at $3,387,201, using a cash or working capital to the amount of $777,255 and employing 4,931 persons, to whom $1,809,545 were paid in wages.

Menhaden industry.—In 1920 there were 18 factories operated, valued at $1,727,063, as compared with 20 factories, valued at $1,307,128 in 1912. The number of menhaden utilized was 536,879,567, valued at $2,192,837, as compared with 511,061,050, valued at $1,065,560, in 1912. The manufactured products included 40,212 tons of dry scrap and meal, valued at $3,035,169, and 2,053,363 gallons of oil, valued at $546,198, as compared with 40,255 tons of dry scrap, valued at $1,208,321, and 1,907,083 gallons of oil, valued at $426,948 in 1912. The number of vessels operated in 1920 was 50, valued at $2,477,851, with a net tonnage of 5,229 tons, and outfits valued at $541,563.

Miscellaneous industries.—In 1920 there were canned 31,919 cases of alewife roe, valued at $139,841, and of other fishery products 5,863 cases, valued at $64,371. There were salted 5,738,703 pounds of alewives, valued at $158,795. The crushed oyster-shell industry yielded 20,075 tons of poultry grit, valued at $288,675, and 31,842 tons of lime, valued at $340,371.

The detailed statistics of the industries referred to above are shown in the appended tables.

INVESTMENT, PERSONS ENGAGED, AND WAGES PAID IN THE WHOLESALE FISHERY TRADE OF VIRGINIA, 1920, BY LOCALITIES.

Localities.	Establishments.		Number of persons engaged.	Cash capital.	Wages paid.
	Number.	Value.			
Norfolk	19	$596,955	749	$194,000	$484,363
Reedville, Fairport, and Fleeton	13	830,470	537	103,400	338,454
Hampton and Phoebus	14	298,524	527	83,000	185,355
Portsmouth	3	130,867	189	21,000	73,481
Kilmarnock, Ocran, Taft, and Whitestone	4	492,394	203	43,000	69,618
Chincoteague	8	123,186	145	38,605	67,306
Ditchley and Hardings	3	155,827	136	36,000	61,582
Willis Wharf	6	98,422	286	30,050	58,931
Morattico	4	22,000	115	5,100	40,830
Urbanna and Remlik	4	14,300	98	1,600	34,110
Irvington	6	63,534	167	2,500	33,850
Weems	7	16,305	137	3,650	28,635
Wachapreague	5	15,650	90	12,500	26,242
Cape Charles, Magotha, and Oyster	5	171,440	96	9,400	25,420
Accomac and Chesconnessex	4	25,788	60	53,150	17,200
Sanford	3	9,620	93	7,700	16,989
Tangier	12	27,273	60	8,890	15,150
Walnut Point, Lake, and Lewisetta	6	20,175	132	9,300	14,900
Sharps and Simonson	5	11,500	95	2,300	14,192
Saxis	5	13,227	93	11,250	9,625
Blackwells and Tipers	10	2,450	52	5,700	8,500
Franklin City and Greenbackville	8	10,719	42	9,950	8,396
Lodge Cowart and Mundy Point	3	24,600	99	8,000	8,300
Sampsons Wharf and Mila	5	2,875	32	3,700	3,200
Miscellaneous localities	44	209,100	698	73,510	164,916
Total	206	3,387,201	4,931	777,255	1,809,545

THE MENHADEN INDUSTRY OF VIRGINIA IN 1920.

Items.	Number.	Value.	Items.	Number.	Value.
Factories	18	$1,727,063	Steam vessels, fishing	42	$2,210,526
Cash capital	.....	206,005	Tonnage	4,673	.....
Wages paid factory employees	.....	540,082	Outfit	.....	481,163
Persons in factories	897	.....	Gasoline vessels, fishing	7	263,800
Persons on vessels	1,542	.....	Tonnage	536	.....
Menhaden utilized	536,879,567	2,192,837	Outfit	.....	59,300
Products:			Sail vessels, fishing	1	3,525
Dry scrap, tons	37,890	2,845,364	Tonnage	20	.....
Fish meal, do	2,322	189,805	Outfit	.....	1,100
Oil, gallons	2,053,363	546,198	Apparatus on vessels: Seines (total length, 16,480 yards)	50	121,800

QUANTITY AND VALUE OF CANNED AND SALTED FISHERY PRODUCTS AND OF FISHERY BY-PRODUCTS MANUFACTURED IN VIRGINIA IN 1920.

Items.	Number.	Value.
Canned:		
Alewife roe—		
No. ½ (4 dozen to case)....cases..	10	$90
No. 1 (4 dozen to case)....cases..	2,150	11,610
No. 2 (2 dozen to case)....cases..	29,759	128,141
Other products....do....	5,863	64,371
Total....do....	37,782	204,212
Salted: Alewives...pounds..	5,738,703	158,795

Items.	Number.	Value.
By-products:		
Dry scrap....tons..	37,890	$2,845,364
Fish meal....do....	2,322	189,805
Fish oil....gallons..	2,053,363	546,198
Crushed shells....tons..	20,075	288,675
Lime....do....	31,842	340,371
Total....	....	4,210,413
Grand total....	....	4,573,420